

VIDEO VENDOR  
4235 W. MAIN STREET  
SKOKIE, ILLINOIS 60676  
312-982-0440

TECHNICAL SERVICE BULLETINS

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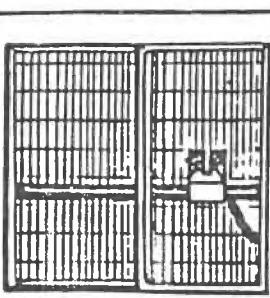
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# Technical Service Bulletin #1 revised

Of Interest  General Manager  Sales Manager  Service Manager  Parts Manager  Service Technicians

SEPTEMBER 7, 1987

SUBJECT: MAINTENANCE OF THE VERTICAL AND HORIZONTAL RAILS



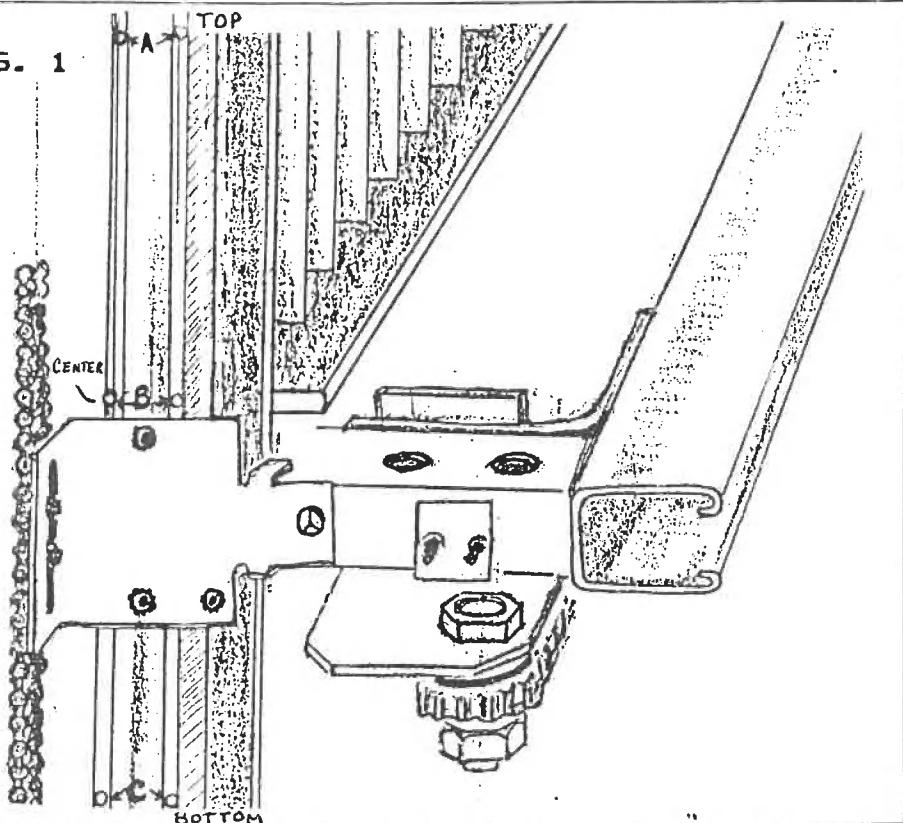
THIS BULLETIN REPLACES THE TECHNICAL SERVICE BULLETIN DATED 1/21/86 FOR ALL VIDEO VENDORS WHICH USE THE CAP SCREW ADJUSTABLE SUPPORT BRACKET SEE SERVICE BULLETIN #17 Fig. 1 A. FOR OLDER MACHINES, USING THE SHIM ADJUSTABLE BRACKET SHOWN IN BULLETIN #17 Fig. 1 B, CONTINUE TO FOLLOW THE ORIGINAL SERVICE BULLETIN.

We recommend that you periodically clean the vertical support rails and the horizontal transport rail (See Parts Manual pg. 12 item 10) of any loose flaking or chipped galvanized coating in the area where the roller bearings run on the rails. Lightly sand down if particularly rough.

Apply a light coat of WD-40 oil on the rails and WIPE IT OFF. Put a small amount of Teflon grease in the three places on each vertical rail (as indicated in FIG. 1 A, B & C) and allow the Vendor to work the grease in as it rents tapes under normal operation. CAUTION the Teflon grease must go ONLY on the outer, rolled edge of the rail channel where it comes in contact with the white, plastic Wear Plate (See Parts Manual pg. 12 item 16).

Teflon grease is available from Video Vendor, order Part # 11ND-112-1: 1 Oz. container.

FIG. 1



# VIDEO VENDOR

4235 MAIN STREET Service Department  
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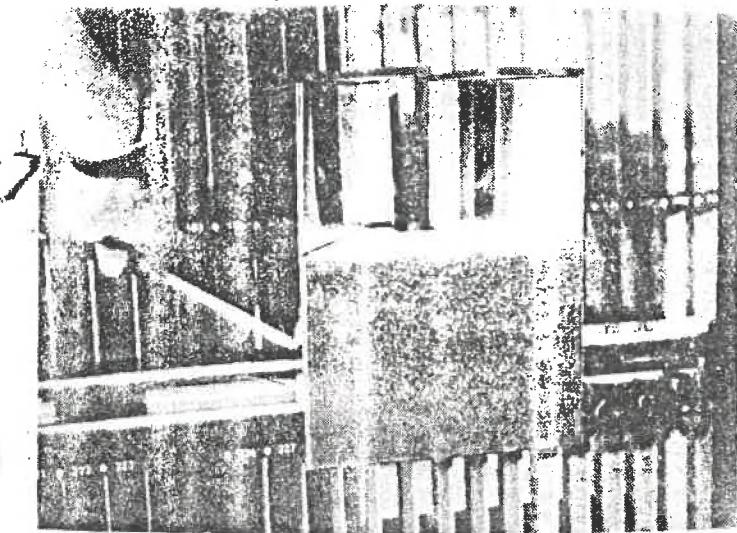
## Technical Service Bulletin

++ <2> - 2/10/8

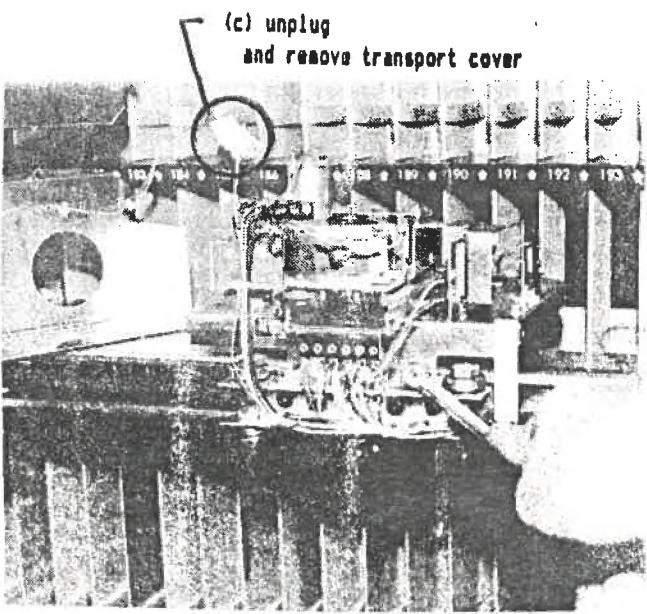
Of Interest  General Manager  Sales Manager  Service Manager  Parts Manager  Service Technicians

### OPENING TRANSPORT MECHANISM TO REPAIR OR ADJUST GRABBER DRIVE BELT

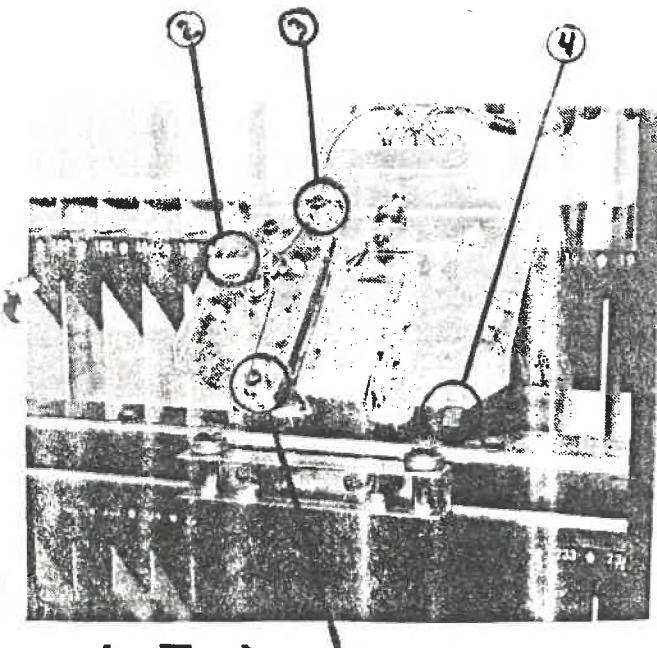
(a) Use diagnostic controls to move transport to convenient position in LEXAN DOORWAY. Turn off main power switch. Open door.



< 1 > (b) Remove 4 screws holding transport cover



< 2 > (d) Use 7/16" wrench and remove 2 nuts as shown. Notes: two wrenches may be necessary one to hold bolt in underneath



(e) Remove top mechanism and turn upside down as shown and be careful of wires and plastic interrupter (photo #3 detail (4))  
If belt jumped off it may be necessary to force the belt back on between the belt guards and their respective pulley's. Then bend belt guard fingers closer to belt.. see belt path diagram.

Belt guard fingers (photo #3 details 1,2,3)

When re-assembling watch wire (c) photo #2. Coil around motor and make sure it does not interfere with mechanism operation. Make sure nuts (d) photo #2 are tight. Make sure plastic interrupter is straight as it must enter optical sensor to find (x) home position.

BELT PATH  
CHECK THE IDLER PULLEY'S ON EACH SIDE OF THE MOTOR DRIV. PULLEY TO MAKE SURE IT TURNS FREELY... OIL SPARINGLY WHERE SCREW GOES THRU PULLEY TO SCREW GOES INTO BUSHING HOLE. WITH ANY DRIPS.

# VIDEO VENDOR

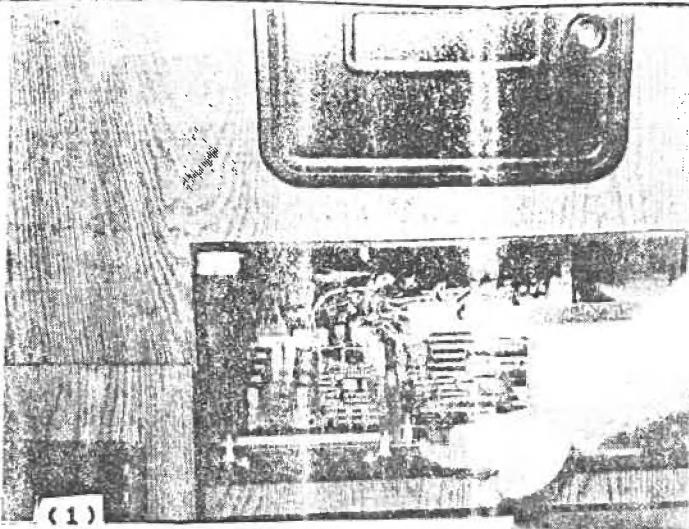
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Service Department

REPLACING PLUG-IN PROMS  
BULLETIN #3 3/6/87

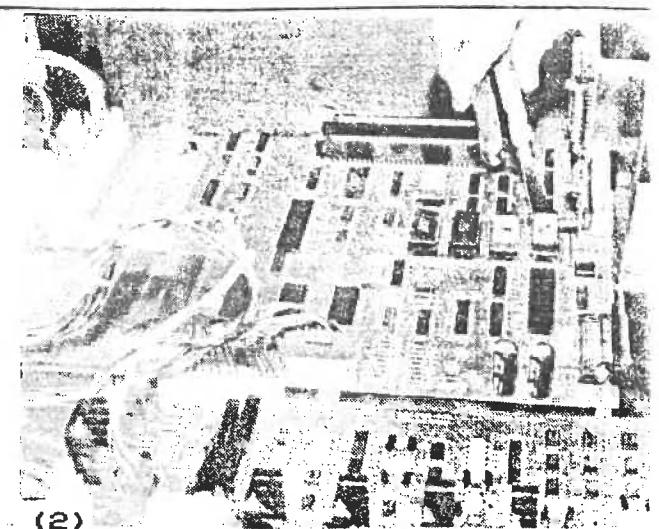
## Technical Service Bulletin

Of Interest  General Manager  Sales Manager  Service Manager  Parts Manager Service Technicians



(1)

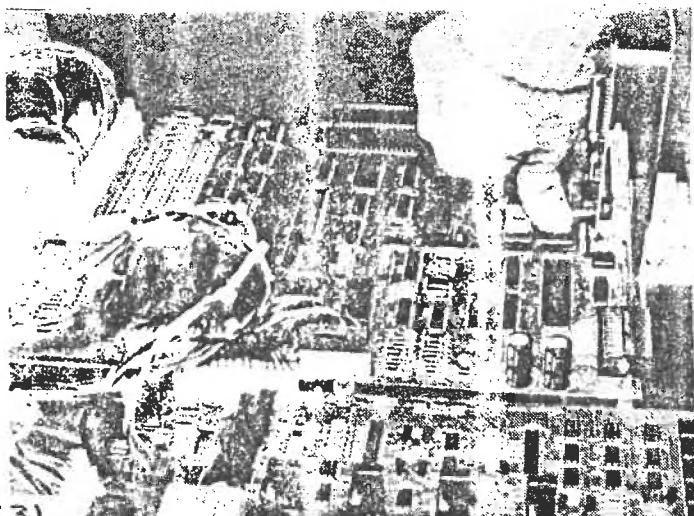
UNLOCK ELECTRONICS DRAWER. REMOVE DOOR.  
PULL OUT BLACK SLIDE-OUT DRAWER,



(2)

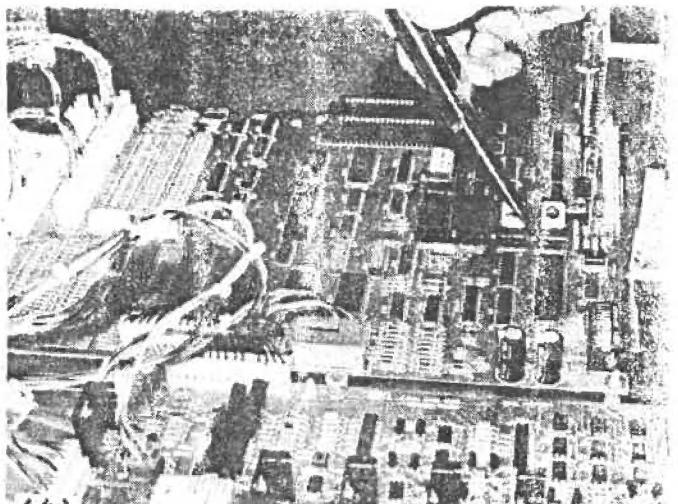
PROM  IS SHOWN BEING REMOVED FROM IT'S SOCKET.  
METHOD:

SLIP A KNIFE BLADE UNDER ONE END OF THE PROM  
PRY GENTLY BUT NOT ALL THE WAY. REPEAT ON THE OTHER END. BE  
ROCKING THE PROM CHIP OUT OF THE SOCKET.



(3)

POSITION NEW PROM  WITH KNOTCHED END TO THE LEFT (POINTING  
TOWARDS THE MOTOR CONTROLLER CARD) INTO THE SOCKET MAKING SURE  
ALL PINS ALIGN WITH THE SOCKET HOLES. THEN PRESS IN FIRMLY WITH  
YOUR THUMB.



(4)

CHECK ALL AROUND THE PROM TO MAKE SURE NONE OF THE  
LEADS WERE BENT OR ENDED UP OUTSIDE OF THE SOCKET.

AFTER PROM  AND PROM  HAVE BEEN CHANGED AND CHECKED. SLIDE  
DRAWER IN ALL THE WAY. WATCH CABLES IN THE REAR; THEY SOMETIMES  
NEED TO BE LIFTED UP TO ALLOW THE DRAWER TO SLIDE ALL THE WAY  
BACK.

CLOSE AND LOCK DOOR. RE-POWER MACHINE....AFTER A FEW SECONDS THE  
PRINTER SHOULD -PRINT- AND THE MONITOR SHOULD COME UP WITH THE  
DISPLAY.....

IF THE MONITOR OR PRINTER FAIL TO POWER UP  
SHUT THE MACHINE DOWN...  
AND CALL VIDEO VENDOR IMMEDIATELY  
(312) 982-0440

VIDEO VENDOR, INC.  
4235 W. MAIN ST.  
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(312) 982-0440

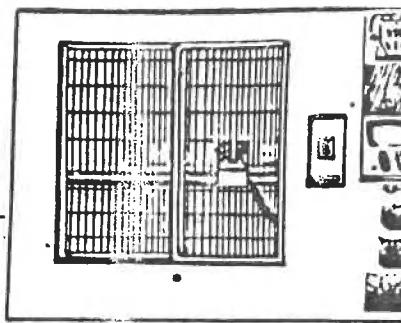
# TECHNICAL SERVICE BULLETIN # 3A

4/28/88

**ATTN: SERVICE DEPARTMENTS**

## HANDLING OF MEMORY DEVICES

### CAUTION



Extreme care should be exercised when handling the memory modules, (Bubble Memory, RAM chips and ROM chips) which store the programs that operate the Video Vendor. These devices are state of the art and extremely reliable, however they are also vulnerable to accidental static electrical discharge. While handling these devices you should use good grounding protection techniques at all times. Grounding protection begins with a properly grounded A.C. electrical outlet. Install a circuit tester into the A.C. outlet which checks proper grounding and electrical polarity. If anything is wrong do not plug the Video Vendor in or anything else into that outlet until an electrician repairs the problem.

After assuring you have a correctly grounded machine plug the power cord back in. But make sure the power switch is off. This assures that the ground connection from the vendor to your outlet is complete. Next use a ground strap on your wrist. The ground strap should be connected to the metal holding bracket for the Bubble Memory Card (the one that has a caution message). This will provide a discharge path for any static while you are working with the Memory devices on the Vendor. Use these precautions even when removing the Memory devices from their packages.

You should also do a full Bookkeeping before and after performing any work on the Memory devices. Even with all this protection there is no guarantee that you will not accidentally cause a premature failure of one of these devices. Although there is a risk to losing data stored in your Bubble, the printouts you made would enable you to update your accounts.

We believe that the small risk involved for the short term is well worth the risk of handling the processor board for updating, in the long term. Version 3.00.04 software represents a major improvement to the Video Vendor's operation.

If preferred, we can supply you with an AC circuit tester, grounding wrist strap, IC chip inserter and soldering pick. Just order service kit X-103. The current cost for this kit is \$30.00.

Please call for help if you have any questions.

# VIDEO VENDOR Technical Service Bulletin

\* (4) - 2/12/

Of Interest  General Manager  Sales Manager  Service Manager  Parts Manager Service Technicia

## IT IS IMPORTANT:

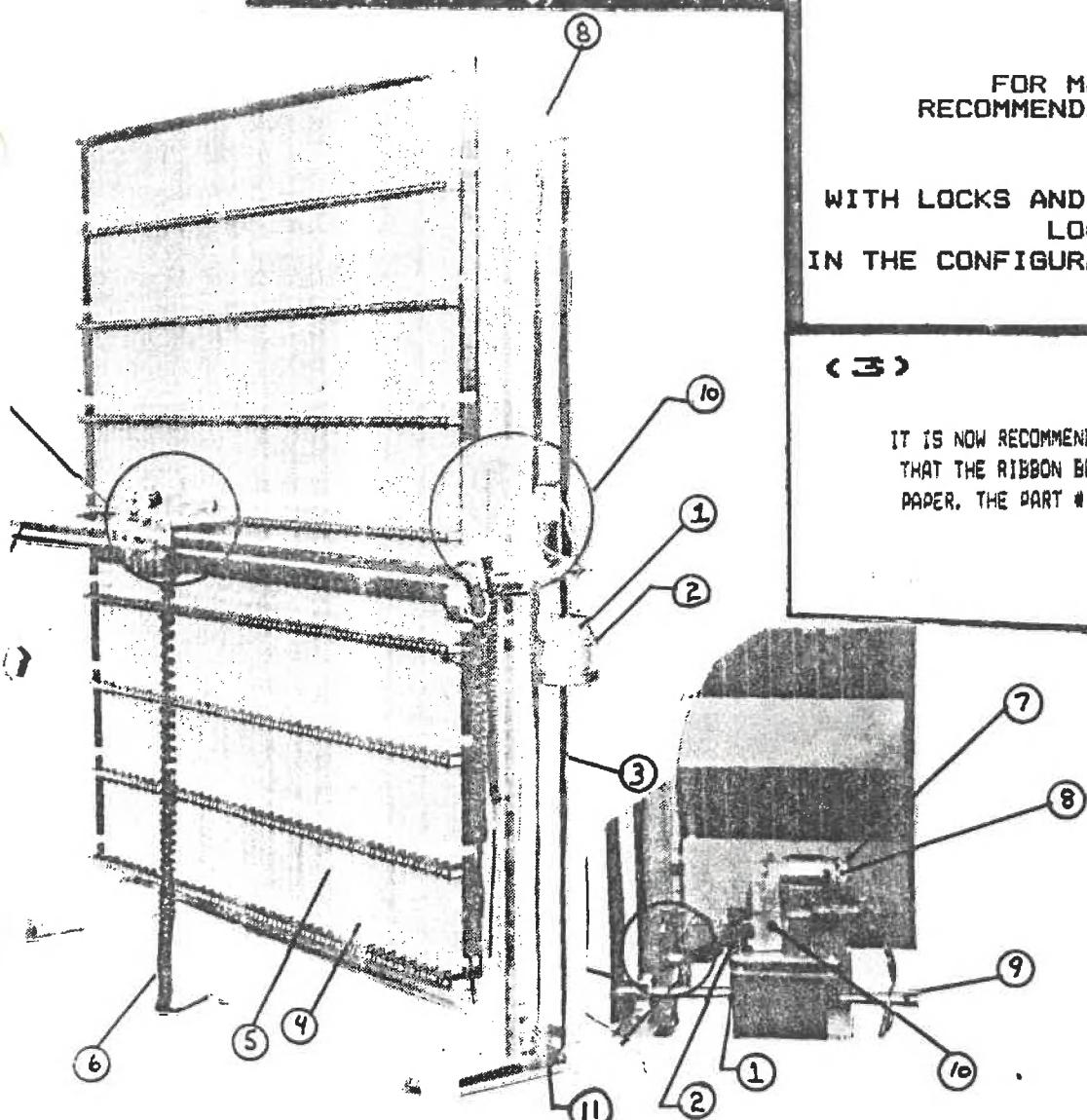
THAT YOU CHECK ALL FOUR SPROCKETS ON THE LOWER SHAFT AS SHOWN IN THE PHOTO BELOW.....

THESE SPROCKETS ARE LOCATED ON THE LOWER MAIN DRIVE SHAFT IN THE BACK OF THE VENDOR.

THE SET SCREW MAY COME LOOSE FROM SHIPPING OR OTHER VIBRATIONS ALLOWING THE SPROCKETS TO FALL OFF OF THEIR RESPECTIVE SHAFTS.

BEFORE TIGHTENING THE SET SCREW MAKE SURE THAT THE KEY IN THE KEYWAY IS ALL THE WAY UNDER THE SET SCREW.....

(2) WE HAVE BEEN ADVISED BY OUR LOCK SUPPLIER THAT .....



FOR MAXIMUM SECURITY IT  
RECOMMENDED THAT ALL THE LOC  
ON YOUR VIDEO VEND  
BE CHANGED  
WITH LOCKS AND KEYS FROM YOUR LOC  
LOCKSMITH  
IN THE CONFIGURATION OF YOUR CHOICE

(3)

IT IS NOW RECOMMENDED THAT FOR MAXIMUM PRINthead L1  
THAT THE RIBBON BE USED ALONG WITH THE SPECIAL IMP  
PAPER. THE PART # FOR THE RIBBON IS A-2955-1  
PRINthead A-2955-2

SHAFT (9) IS THE SHAFT WITH 3  
SPROCKETS ON IT, ONE AT EACH  
END AND ONE BY THE MOTOR.  
THERE IS ALSO ONE SPROCKET  
BY THE MOTOR TO BE CHECKED.

SPECIFICALLY CHECK SPROCKETS  
PART # 9., (11), (1), (2).

NOTE: THERE ARE 2 # (11)  
SPROCKETS.

(312) 982-0440.

# Technical Service Bulletin

Of Interest  General Manager  Sales Manager  Service Manager  Parts Manager Service Technicians**25¢ THE GOLD MECH.  
COIN ACCEPTOR****Service Information:  
CLEANING and CARE of the MECHANISM**

Fig. 1

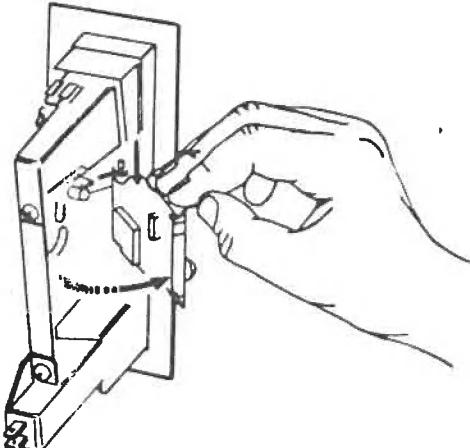
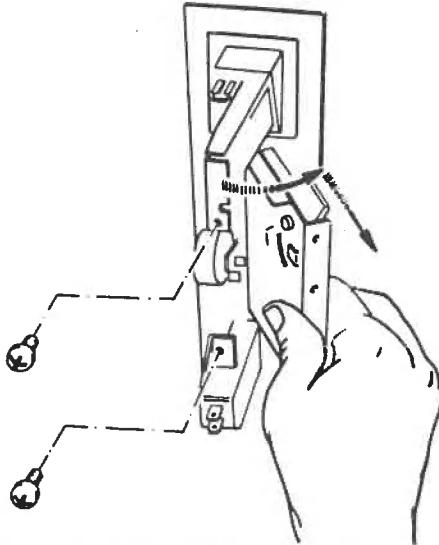


Fig. 2



The magnet that is fitted to the mechanism, should be kept clean from foreign particles. The standard magnet can be cleaned by swinging the gate open. (as shown in Fig. 1). Remove metal filings from the magnet by guiding the point of a screwdriver along the edges of the magnet, such that the filings cling to the joint.

The mechanism can be cleaned by immersing in boiling water using a small brush to clean the mechanism. Rinse the mechanism with boiling water and dry with compressed air.

**Note:**

Since the Gold Mech. relies on coins passing the magnet at a constant speed, the rejector must be free of dirt and grease which may slow down the coins. Do not lubricate the acceptor with oil as this slows down coins.

If the above procedures are not successful, check for worn or damaged parts and replace when necessary.

**Coin switch coin path adjustment**

The coin switch comes in two different spring tensions—identified by the color of the plastic boss at the wire's pivot point.

**Removal of Mechanism**

To remove the coin selector: Unscrew the two screws (as shown in Fig. 2)—swing rear of selector body away from the lock-out side and withdraw.

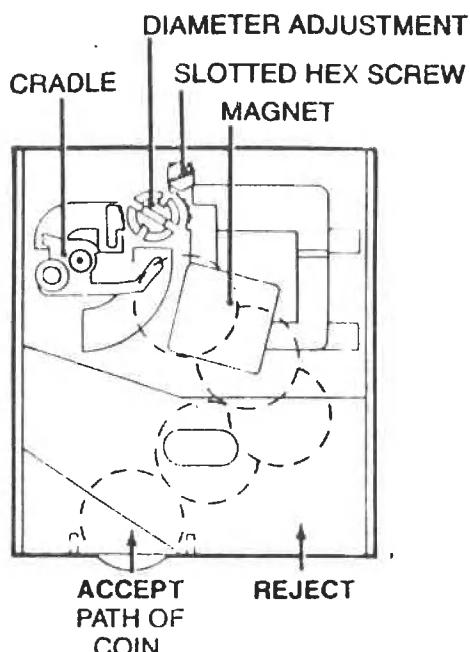
The Gold Mech. Acceptors are designed to require a minimum of maintenance and field adjustment. Coins are checked by diameter and thickness, weight, metal content, bounce, and for ferromagnetic coins such as nickel and steel, a rim test is also used.

The first check on the coin is at the entry slot which prevents the entry of grossly oversize and bent coins. The next test is at the cradle. When the correct coin falls into the cradle, the cradle tips and the coin is delivered to the magnet check. Under-diameter coins fall between the legs of the cradle and are returned to reject. Under-weight coins fail to tipple the cradle and can be returned to reject by pressing the reject button.

Red: Light tension

White: Heavy tension

Fig. 3



#### Adjustment

The Gold Mech. Acceptors are factory adjusted for optimum performance. If more critical adjustments are desired, or if the unit has been disassembled, the following adjustment procedure is suggested. (Fig. 3).

1. Ensure that the mechanism is in an upright and level position.
2. Loosen the hex locking screw on the magnet/rim test holder and unscrew the slotted hex screw.
3. Place a correct coin in the mechanism. Turn the slotted hex screw clockwise until the coin falls into the cradle. The cradle should tipple and the coin come to rest on the side of the magnet. Turn the slotted hex screw clockwise until the coin just clears the magnet. Give this screw a further  $\frac{1}{2}$  turn clockwise for optimum clearance and tighten the locknut.

## The Magnet

Coins that are too thick will fail to pass between the magnet and the backplate of the mechanism; and will be cleared by the magnet wiper when the reject button is actuated. (Fig. 4)

The metal content of the coin is next checked using magnets. The use of magnets make sure that if coins are travelling down the runway at the same speed a magnet will cause this speed to alter according to the metal content of the coin. This retardation of the coin is caused by the induction of eddy currents within the coin due to its passage through the magnetic field. Cupro-nickel is least affected by the magnetic field and leaves the runway fastest of all metals, followed by brass, bronze, copper and silver. Ferromagnetic coins i.e. iron, steel and nickel are stopped and held by the magnet and can be cleared by the reject wiper. For 25¢ U.S.A., the coin is slowed down and deflected into accept by a separator.

The latest assemblies have an 'adjustable plate'. This comprises of two steel legs, the largest of which is fixed, the smaller protruding into the coin switch coin path. These are made as standard with three different bends such that the smaller the coin the greater the gap between the legs. These adjustable plates can be identified by the plates being stamped 1, 2 or 3 accordingly. (Fig. 5)

#### Adjustment plates

Coin Size	Method of adjustment
23.5-25mm	Adjuster plate 3 (stamped 3)
25-27mm	Adjuster plate 2 (stamped 2)
27-28.5mm	Adjuster plate 1 (stamped 1)
28.5-30mm	No adjuster plate necessary

For any further information contact our Technical Services Department.

Fig. 4

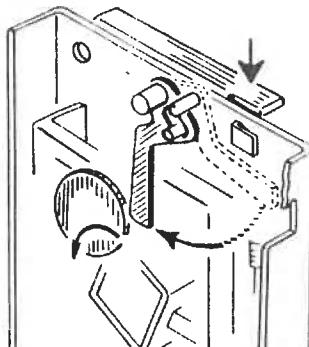
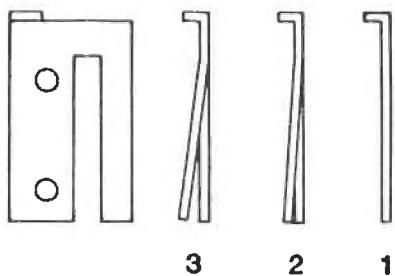


Fig. 5



# VIDEO VENDOR

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Service Department

BULLETIN # 6 - 3/3/86

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## Technical Service Bulletin

Of Interest  General Manager  Sales Manager  Service Manager  Parts Manager  Service Technicians

### IMPORTANT !!!

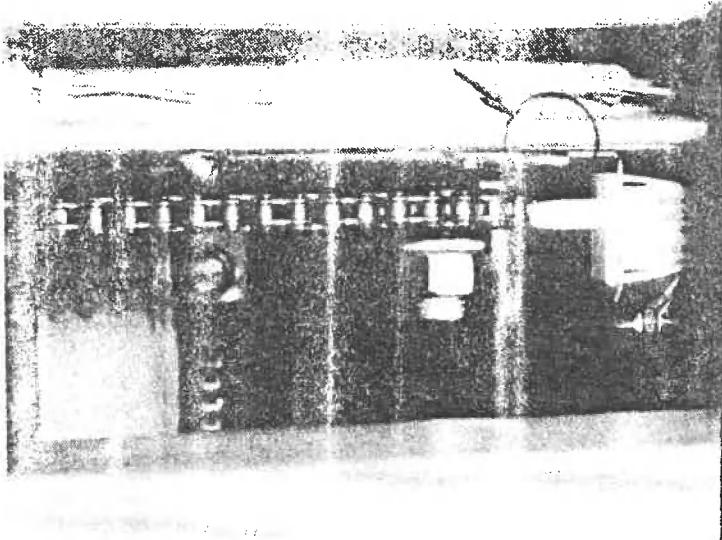
CHECK THE BOLTS AS SHOWN IN THE  
PHOTO'S BELOW TO BE SURE THAT  
THEY ARE THERE.

IT IS POSSIBLE THAT DURING SHIPMENT THESE TWO BOLTS  
MAY HAVE FALLEN OUT.

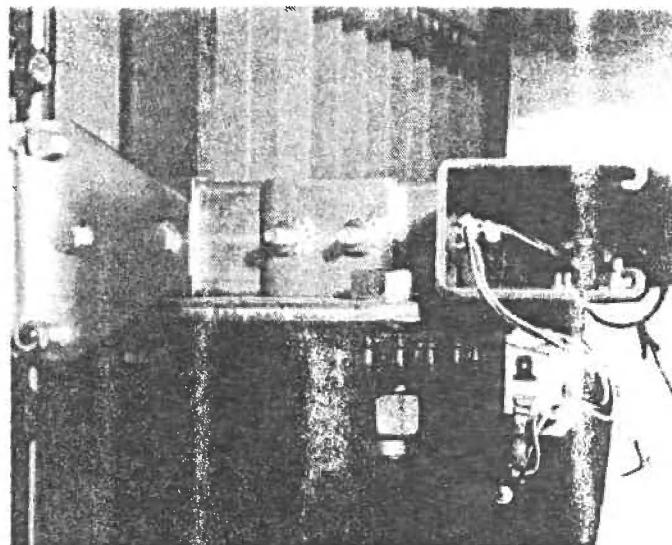
IF THE BOLTS ARE MISSING IT WOULD ALLOW THE TAPE TRANSPORT TO  
MOVE TO FAR RIGHT OR LEFT UNDER MANUAL CONTROL OR DURING A  
MACHINE MALFUNCTION....SO THAT THE X-ENCODER COULD BE DAMAGED OR  
THE OVERTRAVEL LIMIT SWITCHES BROKEN.

THESE BOLTS ARE LOCATED ON THE HORIZONTAL CHANNEL  
(PART # 1D-2470 PAGE 6 IN YOUR PARTS BOOK)

IF YOUR BOLT AND NUT IS MISSING PLEASE CALL IMMEDIATELY AND WE  
WILL SHIP THE CORRECT PART OR ADVISE A LOCAL SUBSTITUTE.



HORIZONTAL CARRIER RAISED TO ACCESS  
DOOR HEIGHT THIS IS VIEW THRU DOOR.



DOOR OPENED ON THE LEFT SIDE  
VIEW OF END OF HORIZONTAL  
CHANNEL

## VIDEO VENDOR

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BULLETIN # 7 -3/3/86

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# Technical Service Bulletin

Of interest  General Manager  Sales Manager  Service Manager  Parts Manager  Service Technician

# UNDERSTANDING AND SERVICING THE X-HOME AND Y-HOME SYSTEM

#### MACHINE SYMPTOMS.

(A) WHEN YOU TRY TO RENT A TAPE, THE TAPE CARRIER GOES UP AND LEFT BUT IN ABOUT 1 SECOND THE SYSTEM STOPS AND GOES BACK TO THE RIGHT OR DOWN, ALL THE WAY TO IT'S OVERTRAVEL LIMIT SWITCH IT STOPS AND WAITS ABOUT 30 SECONDS AND THEN REPEATS, THIS OCCURS ABOUT 3 TIMES BEFORE THE SYSTEM SHUTS DOWN WITH AN ERROR -99- MESSAGE ON THE SCREEN. . . . THESE ARE THE SYMPTOMS WHEN THE (X) OR (Y) HOMES SHOW -NO- ON THE DIAGNOSTIC SCREEN ALL THE TIME.

(B) WHEN YOU TRY AND RENT A TAPE THE TAPE TRANSPORT CARRIER WILL MOVE LEFT OR UP FOR ABOUT 4-5 SECONDS AND THEN IT WILL STOP AND GIVE AN IMMEDIATE ERROR -99- CODE ON THE MONITOR SCREEN.... THESE ARE THE SYMPTOMS WHEN THE (X) OR (Y) HOMES SHOW -YES- ON THE DIAGNOSTIC SCREEN ALL THE TIME.

THE SOFTWARE MUST FIND AND SEE A -YES- AT THE HOME ENCODERS BEFORE IT CAN BEGIN TO LOOK FOR A TAPE...IT MUST ALSO GET A -NO- AS IT LEAVES THE HOME ENCODER...IT IS AT THAT MOMENT THAT THE X-COUNTER AND Y-COUNTER START INCREMENTING THEIR COUNT.

## DIAGNOSTICS.

OPTION (19) ON THE MENU WILL BRING YOU INTO THE DIAGNOSTICS ROUTINE. ~~\*\*\*~~ Photo (1).



PHOTO (1)

DISPLAYED ON THE SCREEN WILL BE ALL OF THE ENCODER INFORMATION WE WILL NEED TO TEST FOR X-HOME AND Y-HOME CONDITIONS AND FAULTS.

THERE ARE TWO POSSIBLE CONDITIONS FOR EACH SWITCH...YES ... NO... BEFORE BEGINNING THE INTERRUPTER TESTS AS DESCRIBED BELOW MAKE CERTAIN THAT THE PLASTIC INTERRUPTER IS IN FACT ENTERING THE BLACK U-SHAPED HOME ENCODER. [ SEE PHOTO (2) ]. TO VIEW THE X-HOME ENCODER IT IS USUALLY NECESSARY TO REMOVE THE TAPE CARRIER TRANSPORT COVER IN ORDER TO SEE THE INTERRUPTER ENTER THE BLACK INFRA-RED HOME DETECTOR...BUT...WHEN YOU REMOVE THE COVER THE SYSTEM MAY NOW APPEAR CORRECT; THAT IS THE PLASTIC INTERRUPTER ENTERS THE U-SHAPED DETECTOR, WHEN YOU PUT THE COVER BACK ON THE SYSTEM FAILS....CAREFUL EXAMINATION MAY SHOW THAT THE INTERRUPTER IS JUST BARELY ENTERING THE LOWER EDGE OF THE HOME DETECTOR WITHOUT THE COVER ON. THE ADDED WEIGHT OF THE COVER AND A TAPE LOWERS THE ASSEMBLY JUST ENOUGH TO CAUSE THE INTERRUPTER TO HIT THE DETECTOR AND BE DEFLECTED ...SOLUTION---MAKE SURE THE INTERRUPTER ENTERS THE CENTER OF THE DETECTOR. CAUTION: DO NOT BEND THE PLASTIC INTERRUPTER TO MAKE THE ADJUSTMENT. THE ENCODER BOARD IS MOUNTED WITH 4-SCREWS AND THEY ALLOW FOR VERTICAL ADJUSTMENT. LOOSEN THE SCREWS SLIGHTLY AND PRY GENTLY UP OR DOWN ON THE BOARD EDGE TO SHIFT THE BOARD TO THE REQUIRED POSITION.

ONCE YOU HAVE DONE THIS TEST YOU WILL HAVE NOTICED THE DISPLAY OF THE HOME SWITCHES AND MAY HAVE ALREADY SOLVED YOUR PROBLEM BUT IF NOT PROCEED.....

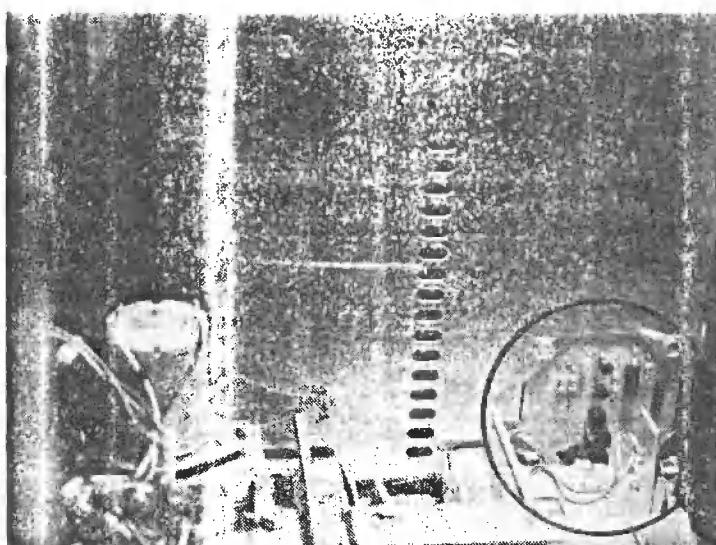


PHOTO (2)

showing the plastic interrupter entering the x- home encoder

---

(A) THE X-HOME AND Y-HOME INDICATORS COULD REMAIN -YES- AS YOU MOVE AN OPAQUE CARD THRU THE INFRA-RED HOME ENCODER OR IT COULD SHOW -NO- AS THE CARD PASSES THRU AND -YES- AS IT ENTERS OR IT COULD SHOW -NO- ALL THE TIME

THE CORRECT CONDITION IS -NO- PRIOR TO THE CARD ENTERING THE ENCODER AND -YES- AS LONG AS THE CARD REMAINS IN THE ENCODER

NOW LET'S LOOK AT THE PHOTO'S TO SEE WHERE THE ENCODERS ARE AND HOW TO CHECK THEM WITH AN OPAQUE CARD....

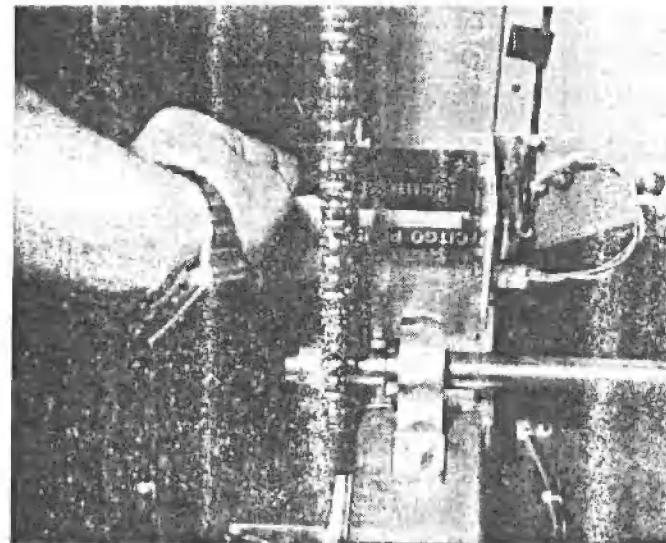
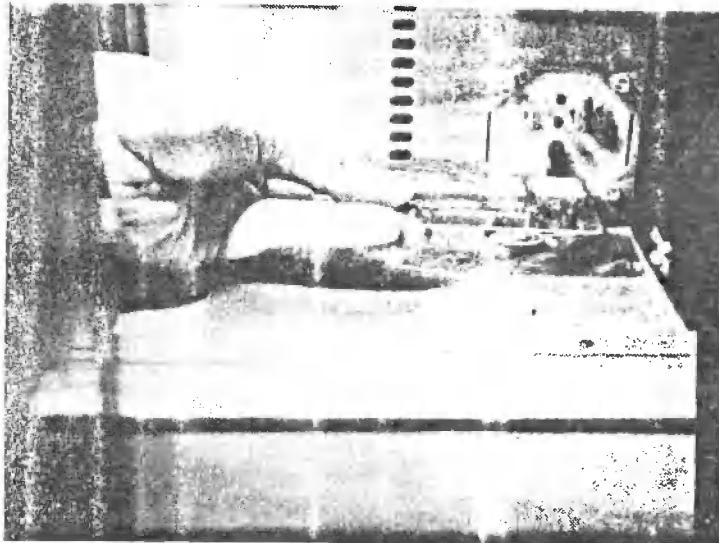


PHOTO (3)

testing x-home

testing y-home

IF THE ENCODERS DO NOT RESPOND TO THE CARD TEST THE PROBLEM COULD BE A DEFECTIVE ENCODER OR A PROBLEM FURTHER DOWN THE LINE TO THE MAIN PROCESSOR BOARD... IN 90% OF THE TIME IT WILL BE THE ENCODER.... IF YOU HAVE ANOTHER ONE... ALL ENCODER BOARDS ARE THE SAME PART # MEB 1000 YOU CAN TRY REPLACING THE BOARD AND TEST AGAIN IF THE PROBLEM APPEARS NOT TO BE IN THE ENCODER BOARD THEN SEE PHOTO'S BELOW FOR FURTHER TESTS....

IF YOU EXAMINE THE CORD WHICH PLUGS INTO THE X-HOME ENCODER YOU WILL SEE.. 3 WIRES. RED +5 volts, GREEN -GROUND, BLUE SIGNAL WIRE.

IF YOU SHORT THE GREEN WIRE TO THE BLUE WIRE... THAT IS THE SIGNAL GOES TO GROUND... PHOTO (4) YOU SHOULD SEE THE HOME SIGNAL YOU ARE TESTING GO TO -YES. IF IT DOES IT PROVES THAT THE PROBLEM LIES IN THE ENCODER BOARD AND OR THE CONNECTION.

THE SIGNAL WIRE ON THE Y-HOME ENCODER IS WHITE WITH BLUE STRIPE.

IF THE HOME DOES NOT GO TO -YES OR IF IT REMAINS -YES THEN PROCEED TO THE NEXT TEST.

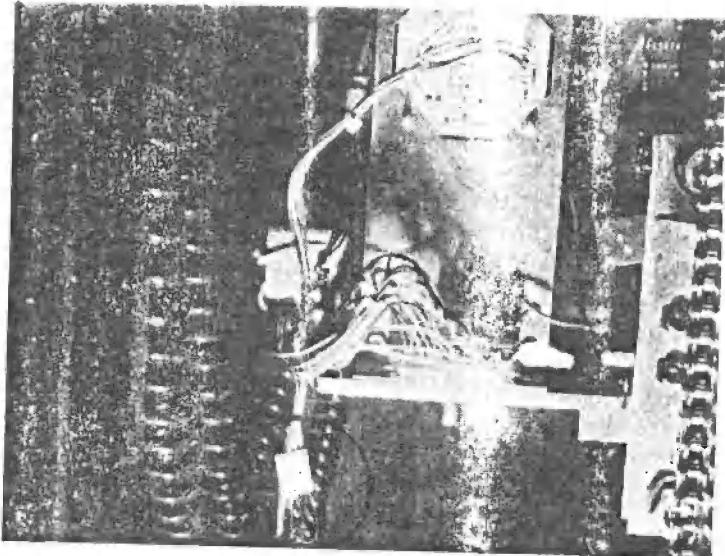
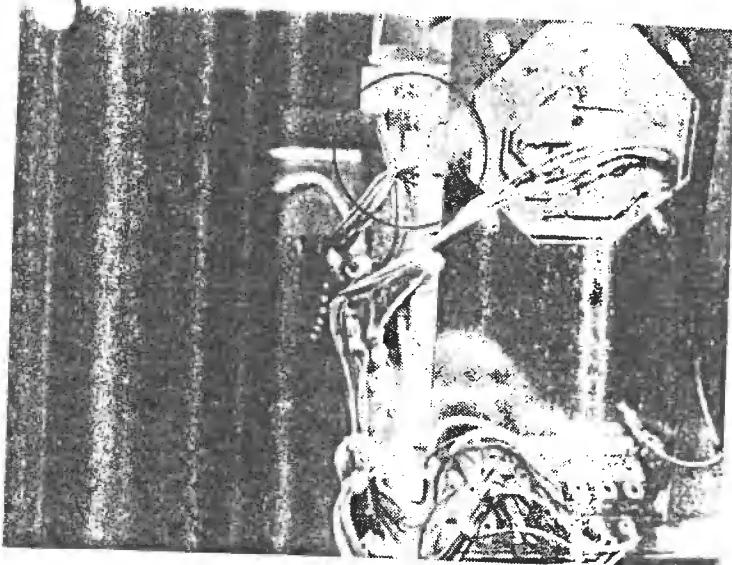


PHOTO (4)

plug in rear of x-home encoder

x-home encoder plug pulled  
and signal wire shorted to  
ground

IF YOU EXAMINE THE MAIN PROCESSOR BOARD SEE PHOTO (5) YOU WILL SEE THE J4 CONNECTOR IN THE REAR OF THE BOARD. THIS IS THE CONNECTOR OFF BY ITSELF TO THE LEFT.

THIS CONNECTOR HAS 16 PINS. ONE OF THE 16 PINS IS CUT SHORT AND ACTS AS A KEY TO BE SURE THAT THE PLUG CANNOT BE INSERTED WRONG. THE FIRST PIN IS THE GROUND PIN - TO THE GREEN WIRE. THE 8TH PIN- DON'T FORGET TO COUNT THE SHORT PIN- IS THE SIGNAL PIN FOR THE -X HOME. IF THE HOME DISPLAY SHOWS -YES- THEN WHEN YOU PULL THE J4 PLUG THE SCREEN SHOULD SHOW -NO IF IT DOESN'T THE MAIN PROCESSOR BOARD IS DEFECTIVE.

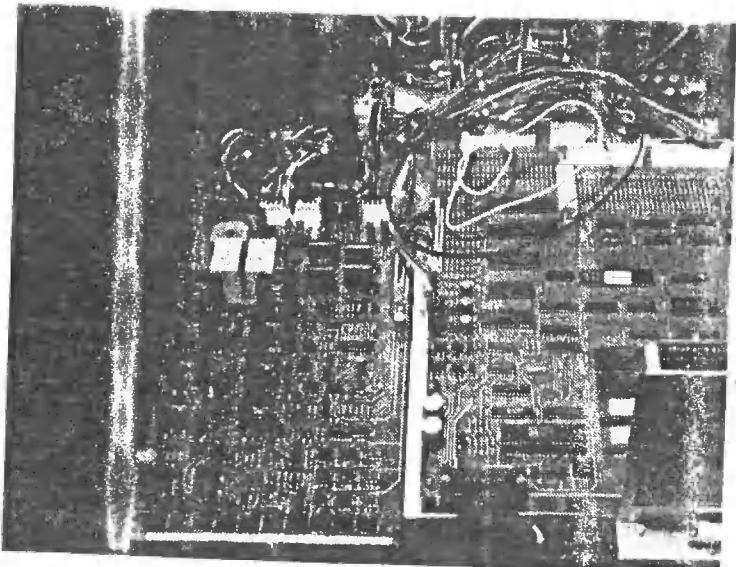


PHOTO (5)

showing pins #1 and #8 jumpered together on the J4 connector

IF THE DISPLAY NOW SHOWS -NO THEN YOU WILL HAVE TO LOOK FOR A SHORT TO GROUND IN THE CABLE SET. IF THE DISPLAY WAS CONTINULY SHOWING -NO THEN TRY SHORTING THE 1ST AND 8TH PINS TOGETHER SEE PHOTO (5). THIS SHOULD PRODUCE A -YES- ON THE DISPLAY IF IT DOES THEN THE PROBLEM IS IN THE CABLE YOU WILL HAVE TO LOOK FOR A DEFECTIVE CABLE...BROKEN LEAD OR MORE LIKELY A BAD CONNECTION IN ONE OF THE PLUGS. IF THE DISPLAY STILL DOES NOT SHOW YES THEN THE PROBLEM LIES IN THE MAIN PROCESSOR BOARD.

ALL OF THE ABOVE IS TRUE FOR THE -Y HOME EXCEPT THE PINS TO TEST ARE PIN #1 AND PIN # 10

### ERROR CODE PRINTOUTS

ACTUAL CODE # SEQUENCE PRINTED ON PAPER RECEIPT PRIOR TO SHUTTING DOWN FOR AN ERROR

renting x-home defective reading -yes- always	157, 128, 126, 114, 115, 116, 109, 104, 103, 102, 101, 114, 115, 114, 114, 114, 114, 114, 114, 114, 114, 114, 114,
renting y-home defective reading -yes-always	158, 126, 114, 115, 116, 109, 104, 103, 102, 101, 114, 115, 114, 114, 114, 114, 114, 114, 114, 114, 114, 114, 114,
renting y-home defective reading -no- always	124, 150, 117, 114, 115, 104, 103, 102, 101, 124, 150, 117, 114, 115, 104, 103, 102, 101, 124, 150, 117, 114, 115, 116,
renting x-home defective reading -no-always	124, 150, 117, 114, 115, 104, 103, 102, 101, 124, 150, 117, 114, 115, 104, 103, 102, 101, 124, 150, 117, 114, 115, 104,

# VIDEO VENDOR

4235 MAIN STREET  
SKOKIE, IL. 60076

Service Department

## Technical Service Bulletin

# 8

Of Interest  General Manager  Sales Manager  Service Manager  Parts Manager  Service Technician

AUGUST 20, 1986

### SUBJECT: IMPROVING SECURITY OF THE VIDEO VENDOR

During the past several months, we have been checking the Video Vendor design in order to make it as tamper proof as possible. During these tests, two areas of possible weakness were discovered:

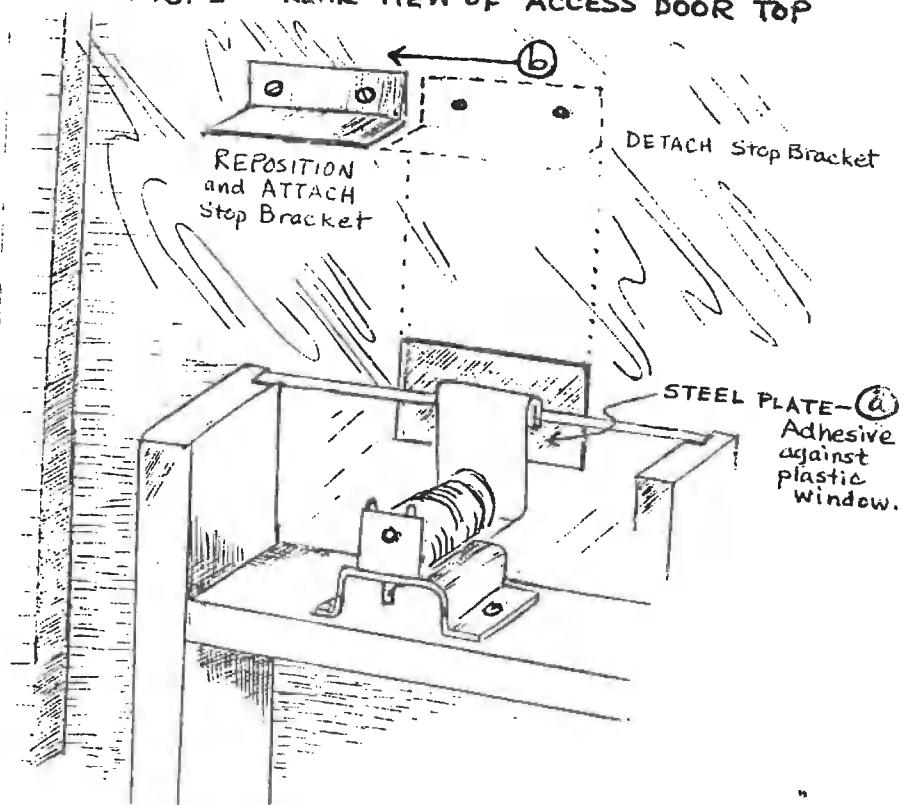
- A. THE ACCESS DOOR
- B. THE LARGE LEXAN TAPE STORAGE DOORS

In order to improve the security of your machine, it will be necessary for you to follow the directions below:

#### A. THE ACCESS DOOR LOCK:

1. Open the large lexan door (tape storage compartment) and the large rear door.
2. See FIGURE 1: Rear view of access door top.
3. The enclosed stainless steel plate has a special high strength adhesive applied to the lower half of one side. (Be careful, due to its thinness the steel plate has sharp edges.)

FIG. 1 REAR VIEW OF ACCESS DOOR TOP



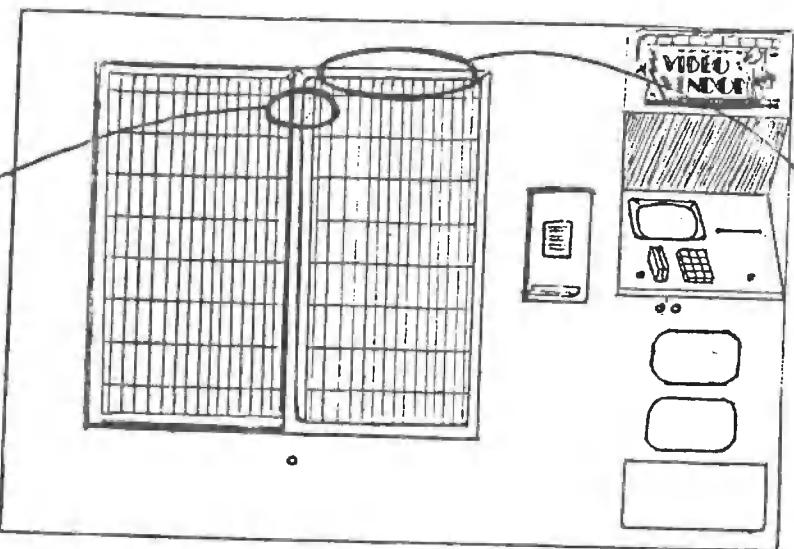


FIG. 2

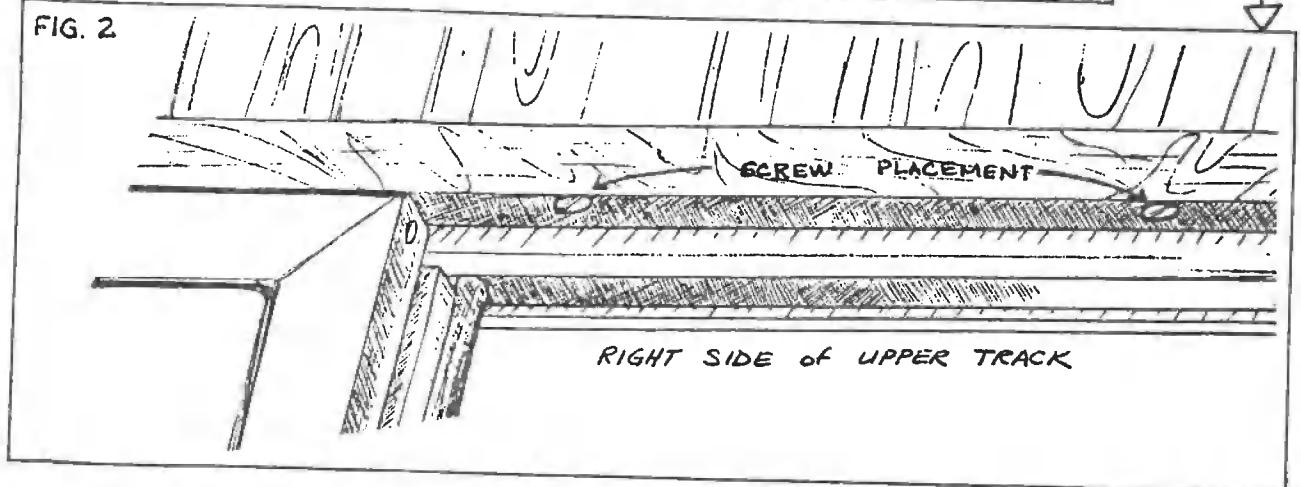


FIG. 3

DOORS OPEN

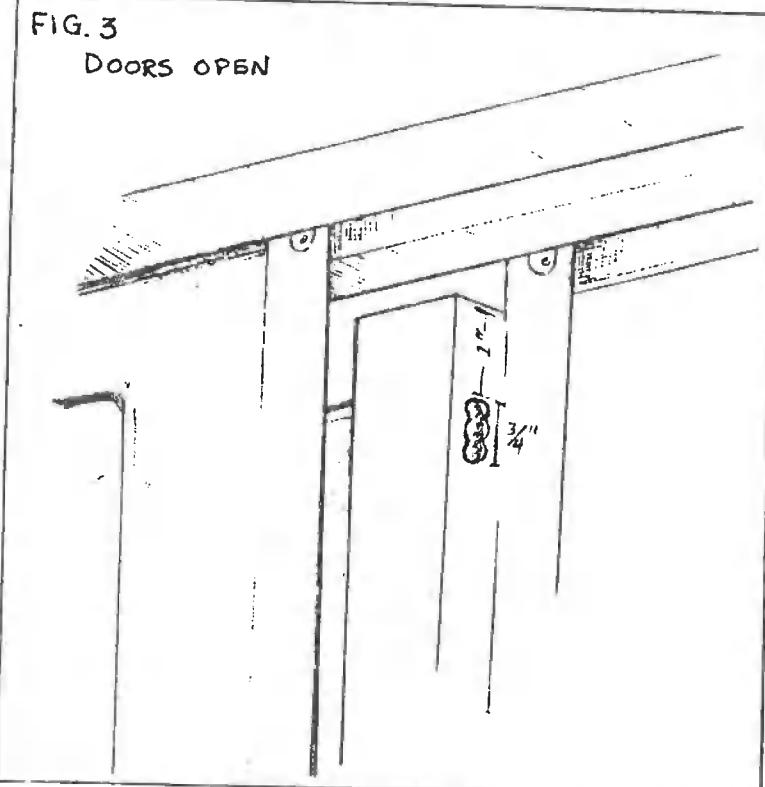
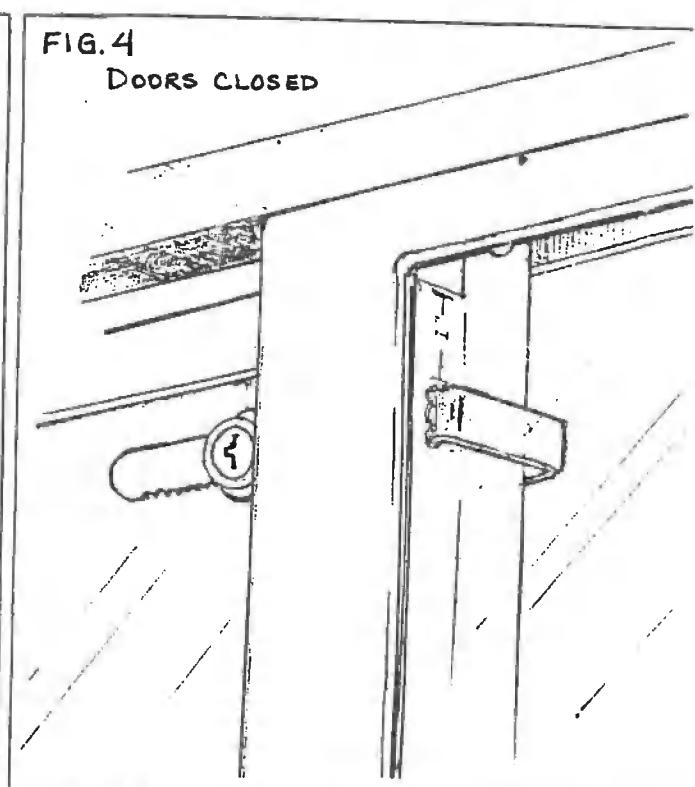


FIG. 4

DOORS CLOSED



4. Peel off the adhesive protective paper and insert the plate between the plastic access door and the cabinet wall, adhesive side toward the plastic door, centered on the latch. See FIG. 1a. Position the plate so that the adhesive layer is just below the top of the plastic door and is approximately level. Now press the plastic door against the steel plate. Hold firmly for five seconds.
5. Remove the two screws from the upper stop bracket. Move bracket towards the command center (tv screen). Position it to clear the new protector plate. (Remember, the door has some slide or twist play--make sure to allow for this movement.) Secure bracket with the two screws. See FIG. 1b.
6. You will be able to perform step 4 working from either the large lexan door entry or the large rear door entry, and step 5 through the large rear door.
7. Test the machine for proper operation, access door latching and sensor switch activation.

B. THE LARGE LEXAN TAPE STORAGE DOORS:

Some Vendors have excessive vertical play in the large lexan doors. To reduce this play, it will be necessary to insert two pan head sheet metal screws into the upper wooden guide track.

1. Slide the right door open and screw two screws into the upper surface of the wood track at the positions shown. See FIG. 2.
2. Adjust the depth of these screws until the door will slide back without interference yet long enough to have taken up sufficient play.
3. Repeat for the left door on its track.

NOTE: Not all machines will require this change, only those with excessive vertical play.

4. For ADDITIONAL security you may want to install the slide lock: Video Vender part number X-129 at \$25.00 each.
  - a. Installation requires drilling a 3/4 inch long slot approximately one inch from the top of the guard channel on the inner door. FIG. 3.
  - b. Use a 3/16 inch drill bit to drill a row of three connecting holes forming the 3/4 inch slot.
  - c. Insert the flat ratchet bar into the slot as shown, and tighten the locking set screw against the door.
  - d. Close the doors. The slide lock fits over the ratchet preventing the doors from being opened. FIG. 4.

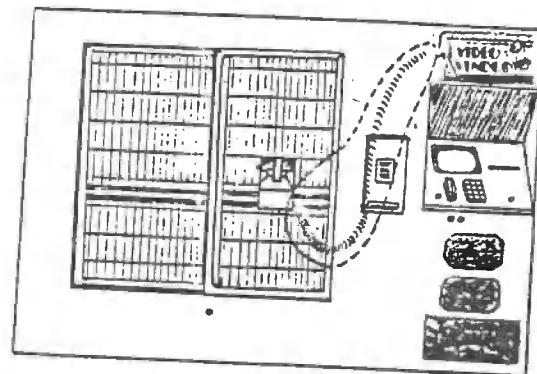
# Technical Service Bulletin #9

Of Interest  General Manager  Sales Manager  Service Manager  Parts Manager  Service Technician

SEPTEMBER 22, 1994

SUBJECT -

TRANSPORT COVER COILED CORD



The long coiled cord used on the tape transport can get jammed at the access door, under certain conditions, and cause the Vendor to blow the fuse on the motor controller board. It would be beneficial to check the cords on all Vendors and correct the hanging of the cord if it is found to be incorrect.

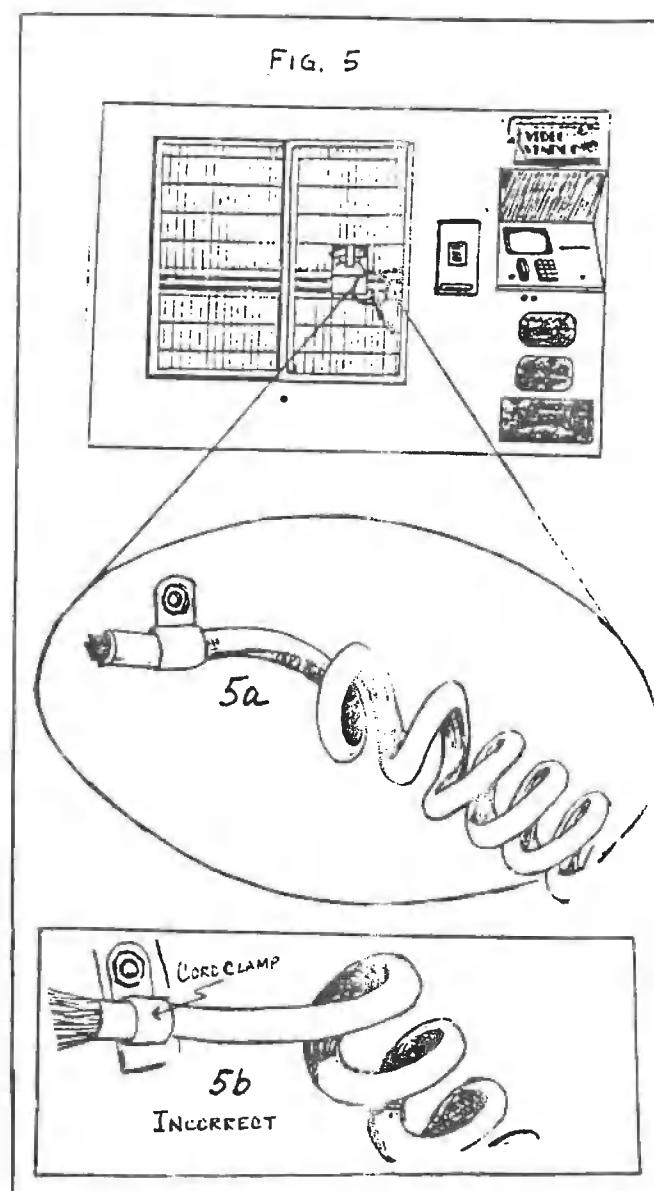
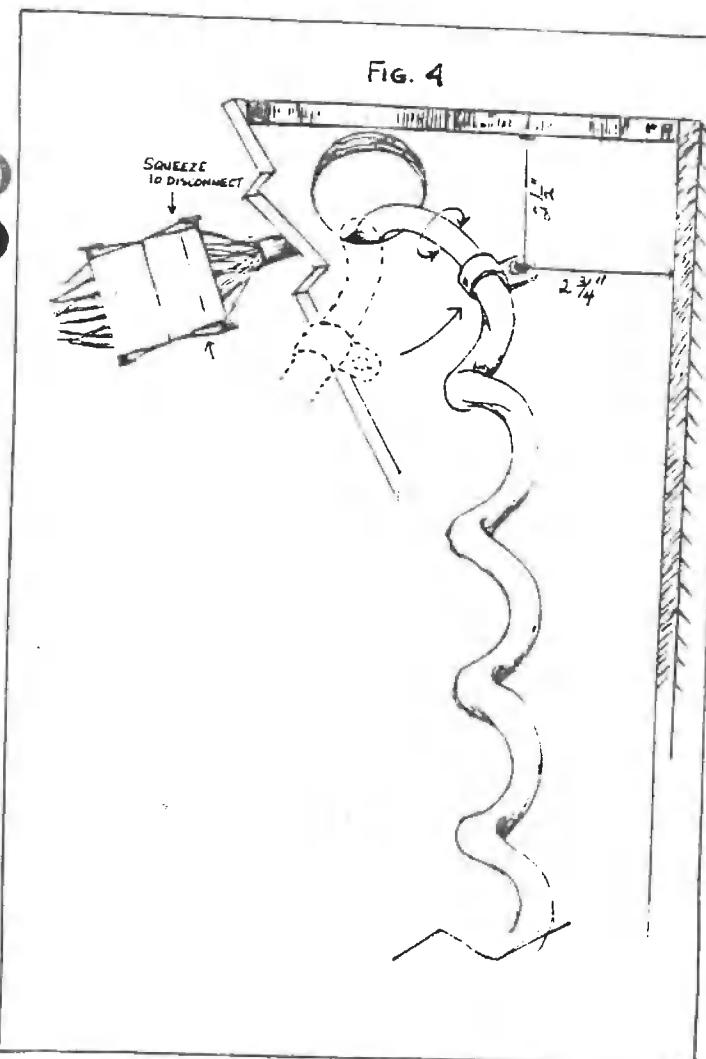
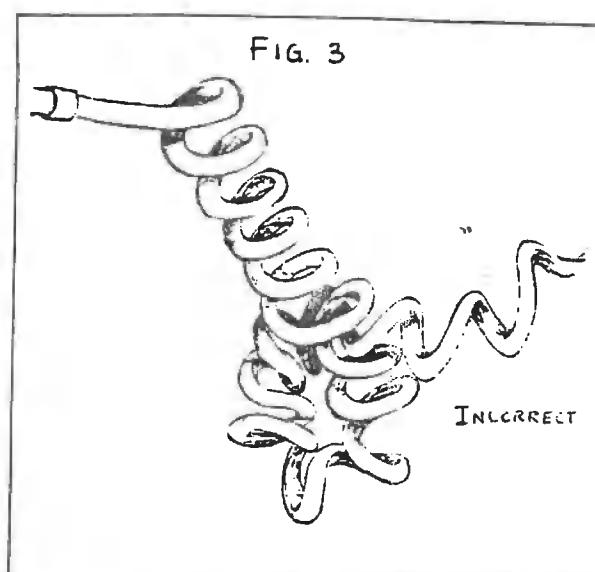
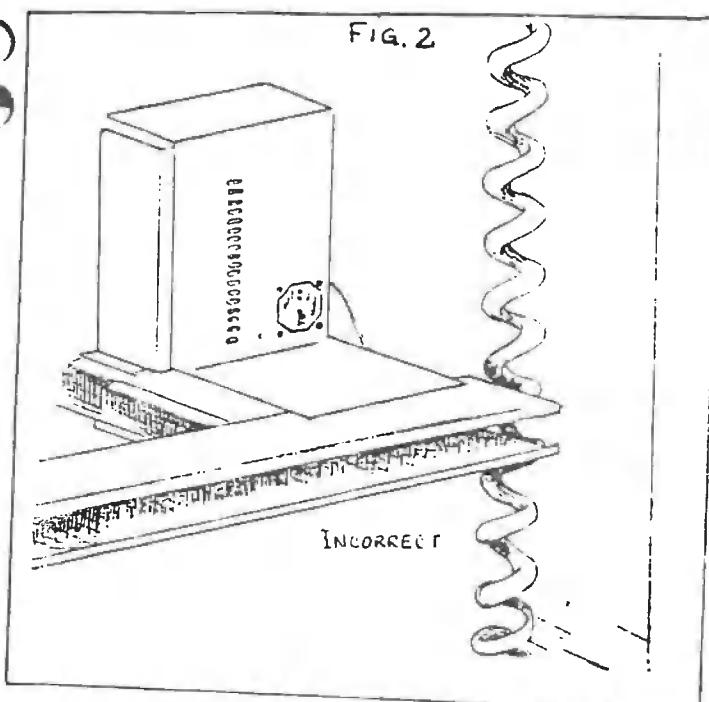
The procedure for checking the cord is as follows:

- A. Enter service feature "19" Diagnostics.
- B. Open the lexan doors and cheat the interlock switch so the transport can be run with the doors open.
- C. Run the transport up one foot and then to the left while observing the coiled cord unfurl.
- D. Move the transport back to the right, then up another foot and left again. Repeat this procedure until the transport is about one foot above the access door.

There are only three ways the cord can be observed hanging. Two of the ways are incorrect and should be fixed. The correct hanging of the cord is as follows:

1. As you face the front of the machine in feature 19 observing the cord while you run the transport up and to the left, the cord should form a "J" shape. The long leg of the "J" should be formed by cord coming straight down to the right of the access door on the inside of the wooden cabinet. (FIG. 1) As the transport is moved left, the cord should move smoothly, not catching on the steel transport beam (FIG. 2) or on the access door itself. (see note: Fig. 1)

2. Problem: If the cord coils to the left, and has to cross over itself as the transport moves to the left, it is hung wrong and should be corrected. (FIG. 3)



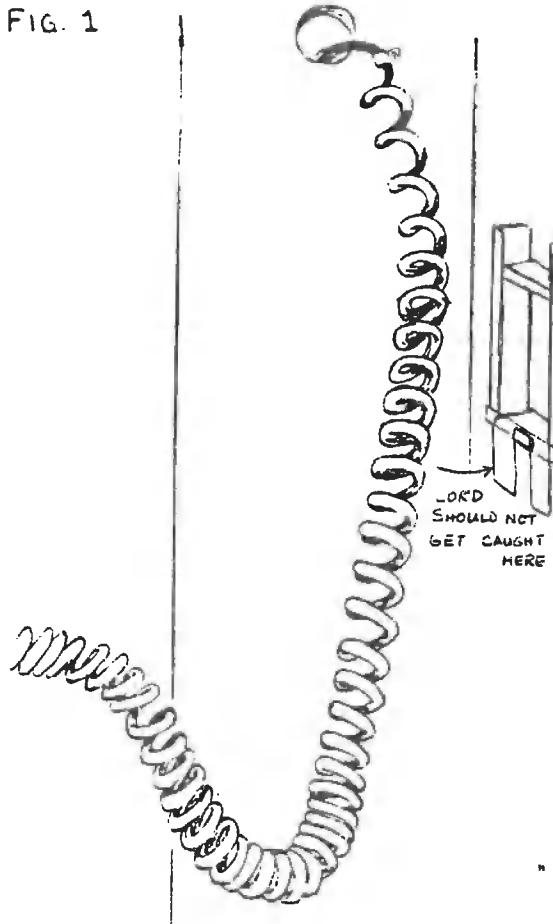
3. Problem: If the cord has the long leg of the "J" hanging toward the back of the cabinet, it is hung wrong. It will get caught on the steel transport beam when the transport moves to the left. (FIG. 2)

To correct the cord positioning, run the transport up about one foot from the home position. Shut off the main power. Disconnect the cord at the top of the cabinet behind the round hole in the upper portion of the wood cabinet. (See FIG. 4) Remove the screw and cord clamp. If necessary, rotate the cord one or two turns in the direction that will remedy the problem in FIG. 3. Plug the cord back in and reclamp it in the position shown in FIG. 4: approximately 2 1/2 inches from the front of the cabinet reinforcing corner block and 2 3/4 inches from the top of the cabinet.

The connection at the retriever end of the cord should be made as shown in FIG. 5a. If it is connected as in FIG. 5b, remove the transport cover, loosen the cord clamp, turn the cord to the proper position and retighten the cord clamp.

Now, retest the cord motion to see if you have completed the rehanging of the cord correctly. If not, retry until it hangs correctly.

FIG. 1



**VIDEO VENDOR**4235 MAIN STREET  
SKOKIE, IL 60076

Service Department

**Technical Service Bulletin #9a.** Of Interest  General Manager  Sales Manager  Service Manager  Parts Manager  Service Technicians

AUGUST 7, 1987

**SUBJECT: AVOIDING COILED CORD PROBLEMS**

This bulletin is to alert you to what we have found to be a primary cause of coiled cord problems.

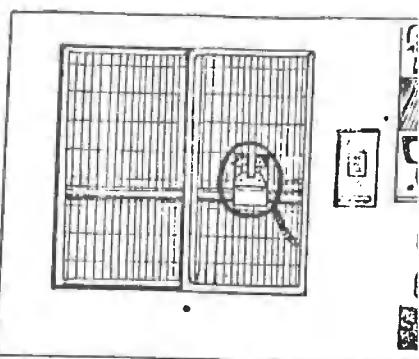
Whenever the retriever is removed from the horizontal rail and turned upsidedown for repairs, it is possible that turning the retriever over again could cause tangling of the coiled cord. For example, while adjusting or replacing the grabber motor drive belt (See Service Bulletin #2) care should be taken not to rotate the retriever before reattaching it to the horizontal rail. Rotating the retriever twists the coiled cord and will cause a jam at the access door.

Be careful to check the hanging of the coiled cord (See Service Bulletin #9) after any adjustment involving the removal of the retriever from the horizontal rail.

## Technical Service Bulletin #10

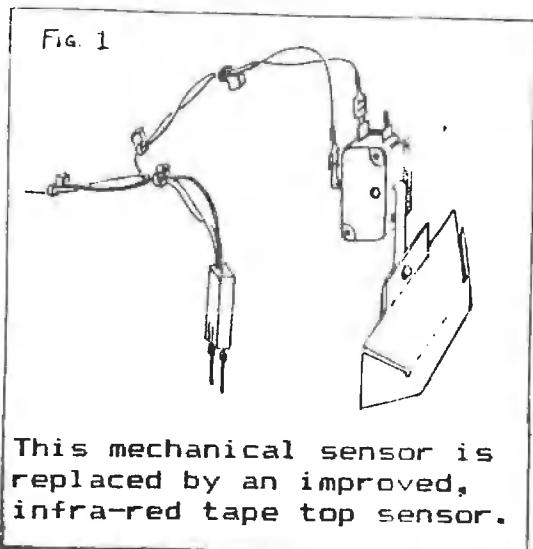
Of Interest  General Manager  Sales Manager  Service Manager  Parts Manager  Service Technicians

SEPTEMBER 8, 1986



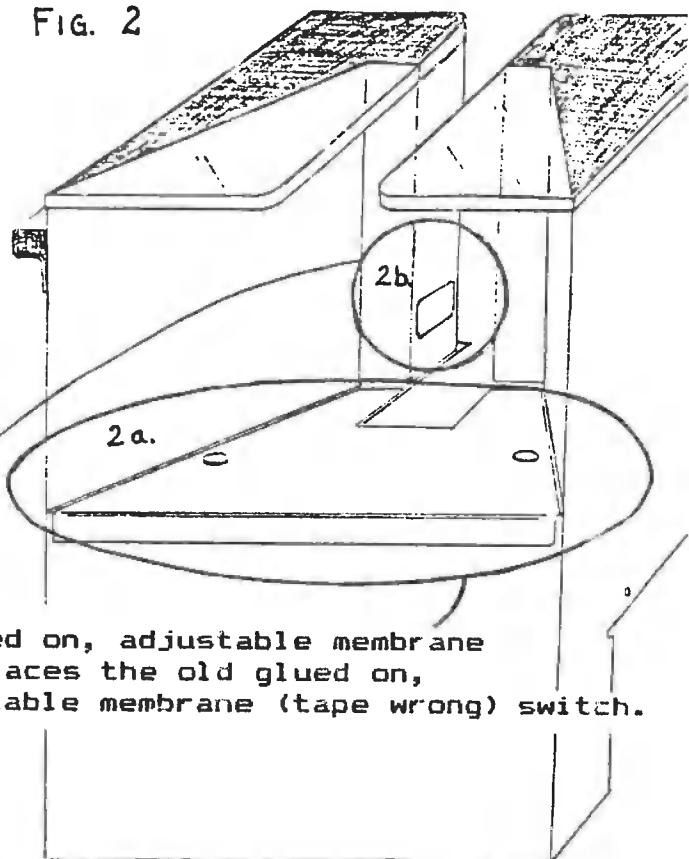
SUBJECT: TRANSPORT COVER CHANGES

1. NEW TAPE TOP SENSOR
2. IMPROVED MEMBRANE SWITCH



This mechanical sensor is replaced by an improved, infra-red tape top sensor.

FIG. 2



New, bolted on, adjustable membrane plate replaces the old glued on, non-adjustable membrane (tape wrong) switch.

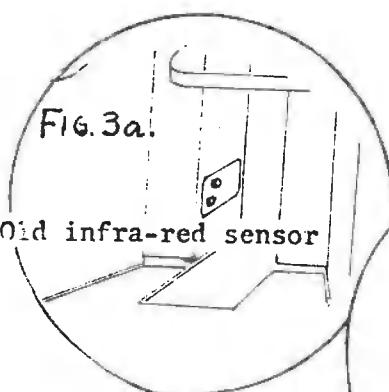


FIG. 3a.

Old infra-red sensor

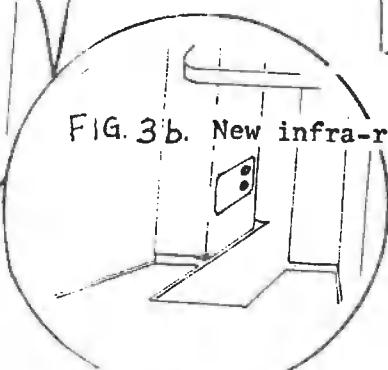


FIG. 3b. New infra-red sensor

Either the mechanical sensor or the infrared solid state sensor with the LEDs in the position shown in 3a (closest to the lexan doors), should be replaced with the newest version of the tape top sensor. It has LED (light emitting diode) sensors in the position shown in 3b (closest to the tape shelves).

On the previous page, you were introduced to our new transport cover. Included are a number of new and valuable improvements.

As is our policy, we design all changes to be easily retro-fit able to all of our Video Vendors.

#### 1. INFRA-RED TAPE TOP

This new, solid state switch eliminates the mechanical adjustment occasionally required due to customer tampering. If you wish to replace your mechanical switch (FIG. 1) with the new one, the connecting cable (included) will also need to be replaced, involving some soldering. The cost of the kit is \$44.79, part # K-3057.

For awhile, we shipped machines with an infra-red tape top. We later discovered that its LEDs (positioned toward the lexan doors) would see the white hub on Beta tapes or would look into the window on VHS tapes returned upside down or backwards, causing various problems.

To determine if you have this type of sensor, look into the rectangular window, FIG 2b. If the LEDs are angled and positioned toward the rear of the slot (lexan door side) as in FIG. 3a, you do. These infra-red switches will now be replaced at no charge. The LEDs on the new board are positioned toward the tape shelves as in FIG. 3b, where they always look at the front edge of both VHS and Beta tapes. No soldering or cable changes are necessary.

Order part # A-3057 : Switch circuit board

part # 1A-2591 : Mounting bracket.

You will be invoiced, but full credit will be allowed upon return of the old circuit board. (You pay the shipping charges.)

#### 2. MEMBRANE SWITCH (TAPE WRONG)

We have found that the switch is almost indestructable, but because you could not adjust its sensitivity in the field to compensate for rough treatment by customers, it could fail.

This switch is now made as a bolted assembly (FIG. 2a) instead of a glued one, allowing field adjustments to correct for failures. However, if your switch has operated for the past three months or more with no problems, we DO NOT recommend changing it.

The adjustable switch will be provided at no charge and adjusting it is simple, taking only a few minutes.

Order part # K8B-787 : Switch assembly.

Following the instructions and template provided, you will need to drill two holes in your cover. No wiring changes are involved.

For those customers who would like to avoid drilling holes to make these modifications, we offer an exchange transport cover complete with all of these new features.

Order part # A-3000 : Transport cover cost 50.00 + shipping charges and your present transport cover.

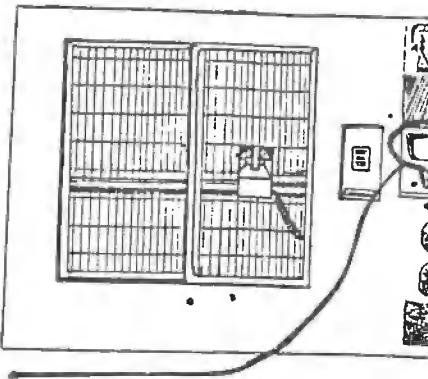
To install; the old cable is unsoldered and the new one soldered on.

## Technical Service Bulletin #11

Of Interest  General Manager  Sales Manager  Service Manager  Parts Manager  Service Technicians

SEPTEMBER 18, 1986

SUBJECT: ADJUSTING THE VIEWING MONITOR SCREEN



To obtain the clearest viewing from your Video Vendor monitor, adjustments can be made on the board behind the screen. Remove the small rear door and locate the video monitor circuit board (FIG. 1). There are three potentiometers (POTS) which control the monitor's visual quality. They are located along the top of the circuit board labeled A, B and C on FIG. 1, and are adjusted by turning with a small screwdriver.

The square, blue pot: "A" controls BRIGHTNESS.

The round, black pot just to the left of "A":

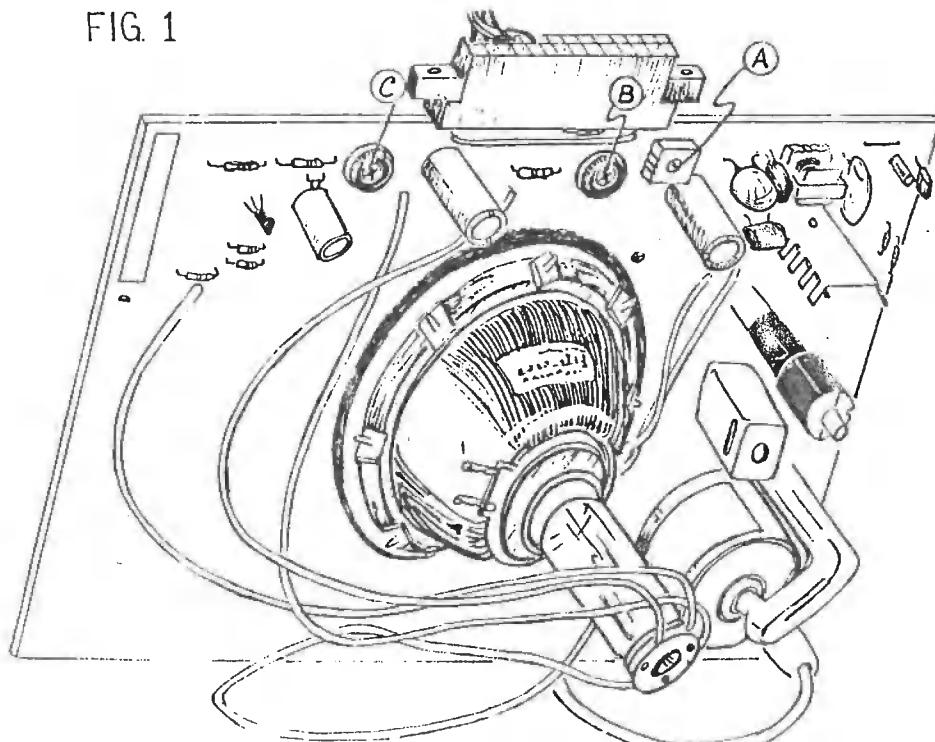
"B" controls CONTRAST.

The other round, black pot to the left of "B":

"C" controls VIDEO GAIN.

TURN	COUNTERCLOCKWISE	CLOCKWISE
A	increases overall brightness	decreases overall brightness
B	decreases contrast; causes blurring	increases contrast; darkens background
C	diminishes sharpness	enhances sharpness

FIG. 1



**VIDEO VENDOR**4235 MAIN STREET Service Department  
SKOKIE, IL 60076**Technical Service Bulletin #12**Of Interest  General Manager  Sales Manager  Service Manager  Parts Manager Service Technicians 

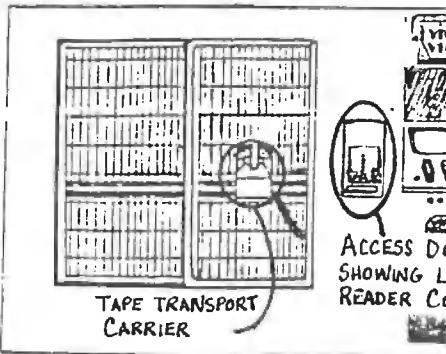
OCTOBER 16, 1986

**SUBJECT: CHECKING AND ADJUSTING LABEL READER ALIGNMENT**

If your label reader board is CONSISTENTLY assigning incorrect code numbers on movie rentals and returns, it could be due to poor alignment of the label reader to the tape transport carrier. The tape carriage should be aligned in both the vertical and horizontal planes. Check the alignment with the transport in the X-home and access door position, and the transport cover removed (see Fig. 1). Follow the procedure outlined below:

1. Correct vertical alignment is shown in Fig. 2, detail a; with the centerline of the lowest sensor eye  $3/8"$  from the tape carriage floor. To check this measurement, place a  $3/8"$  thick piece of plywood into the carriage. The top of the wood should line up with the center of the lowest sensor (see Fig 3). To correct the vertical alignment, insert shims as described in Fig. 4 (see Note). If the carriage lines up too HIGH, insert a shim at point "A". If it lines up too LOW, insert a shim at point "B". After shimming, recheck the  $3/8"$  measurement.
2. Correct horizontal alignment is shown in Fig. 2, detail b; where the vertical row of sensor eyes is centered along the midline of the tape carriage. If the sensors appear to be left or right of center, the plastic switch interupter (Fig. 5) can be adjusted. If the row of sensor eyes are LEFT of center, loosen the screws and move the plastic interupter slightly to the right. If they are RIGHT of center, move the interupter slightly to the left.
3. Correct tape cassette alignment to the label reader cover is shown in Fig. 6a. The cassette must be pushed flush against the label reader cover. The alignment in 6b is incorrect but the machine can still work because the grabber, positioned low on the tape, will continue to push the tape flush to the label reader cover. To remove the gap, however; open the access door, reach in and PUSH the top of the label reader cover to the position shown in 6a. The alignment in 6c is incorrect and the machine will probably work intermittently because a gap between the top of the cassette and the label reader cover cannot be closed by the grabber. To correct this; open the access door, reach in and PULL the top of the label reader cover to the position shown in Fig. 6a. (You must overcompensate while pushing or pulling the cover in order to bend it sufficiently to remain in the correct position.)

If after making these adjustments your unit continues to assign incorrect code numbers on movie rentals and returns, you may have a defective label reader board and you will need to replace it. The part # is A-2993.



3  
FIG. 1

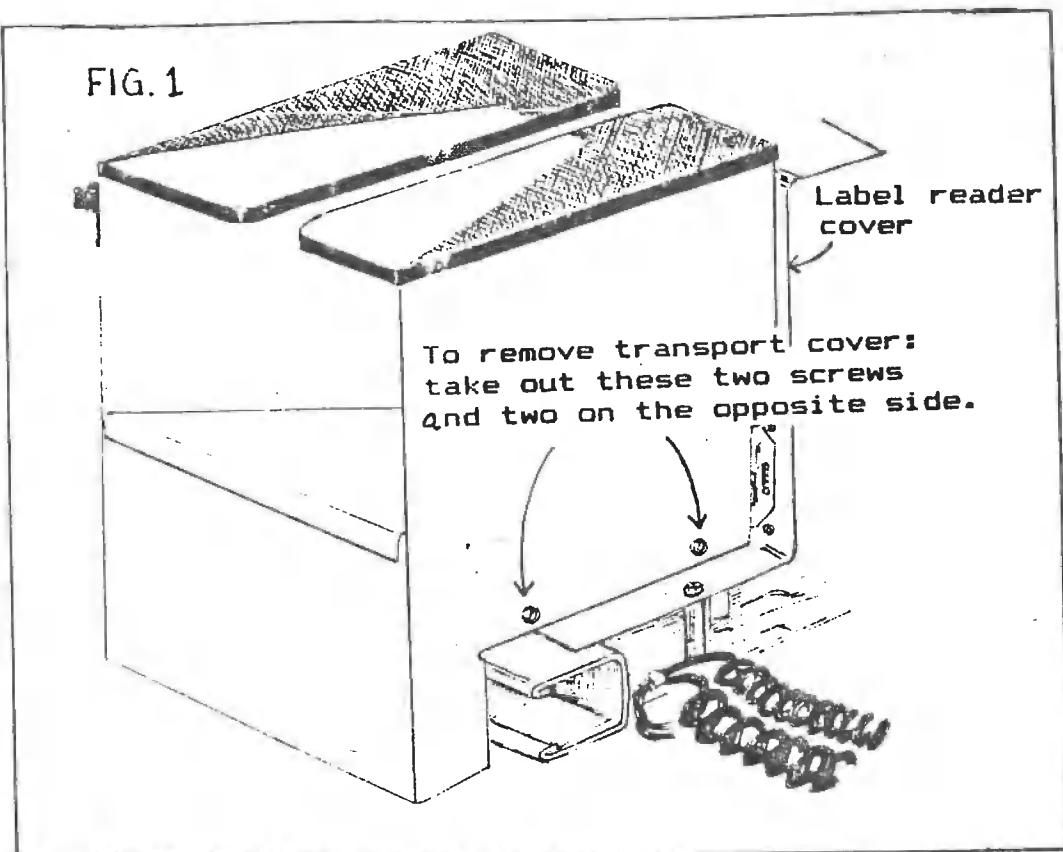


FIG. 2

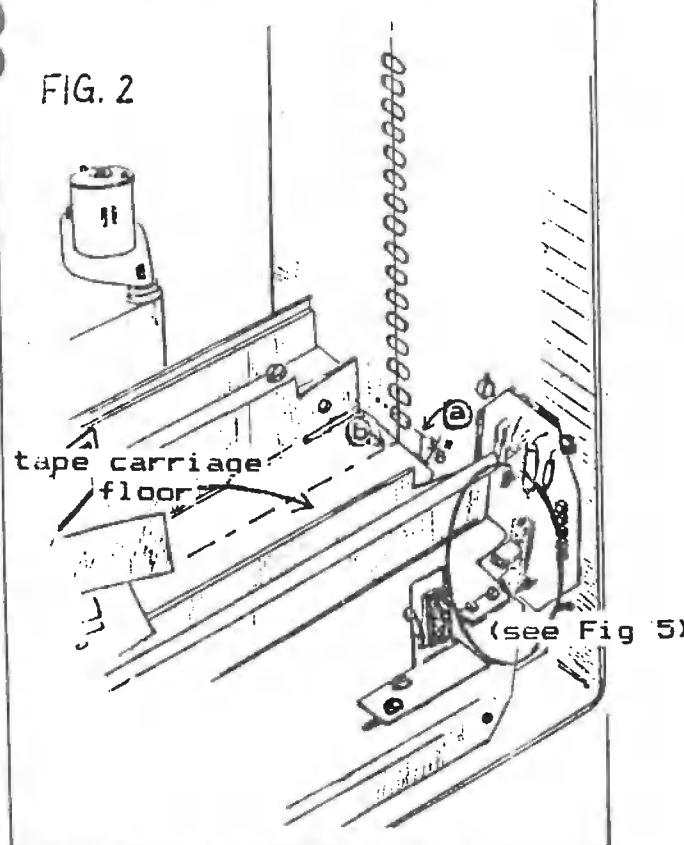


FIG. 3

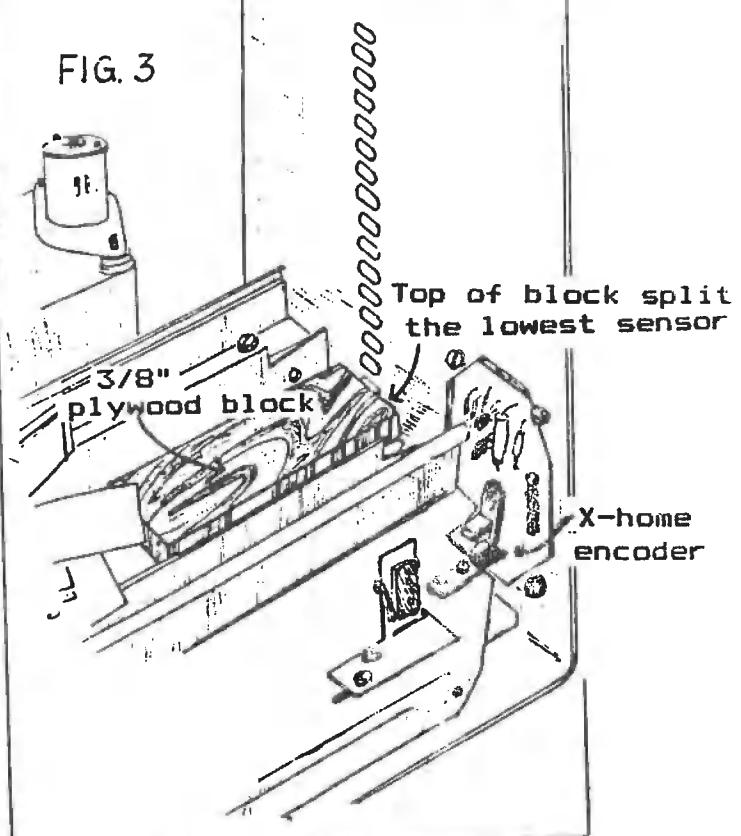


FIG. 4

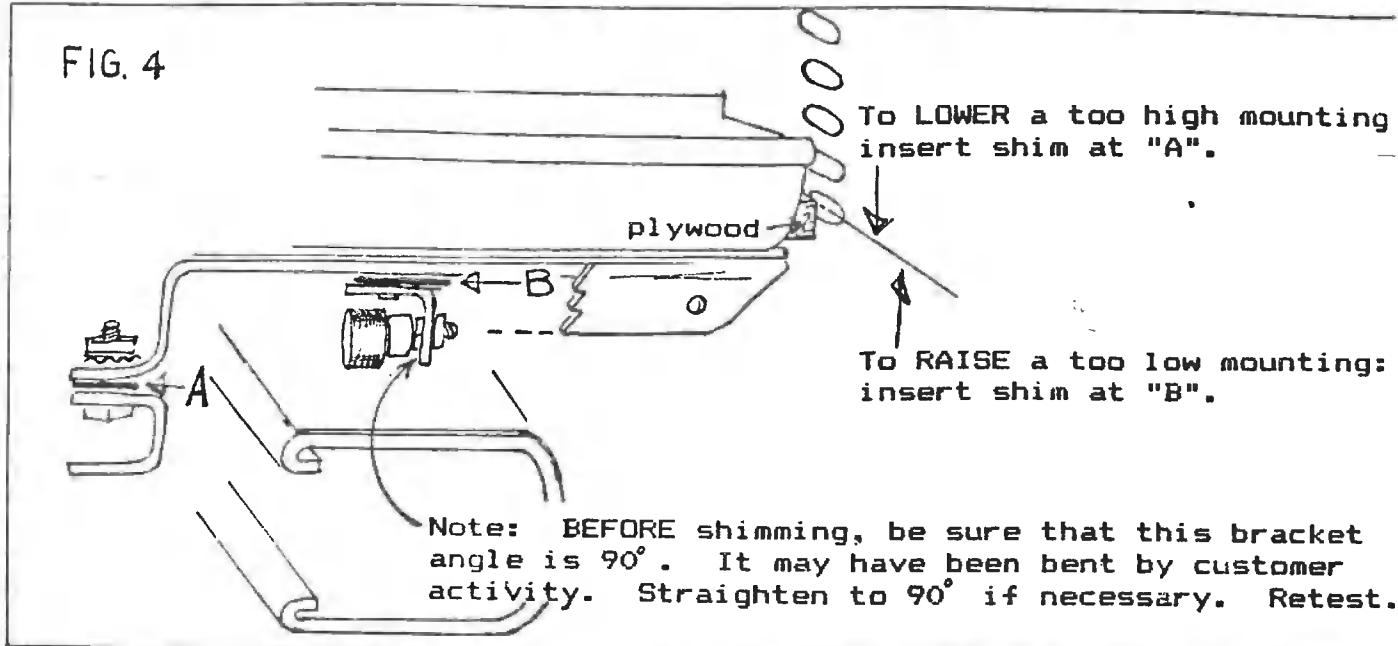
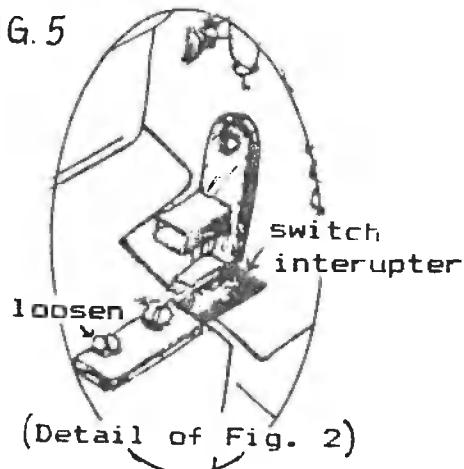
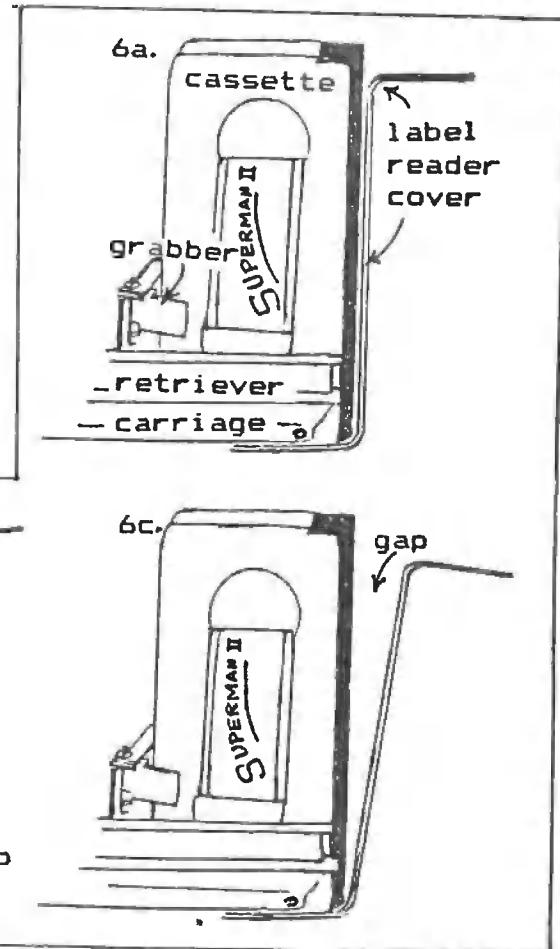


FIG. 5



(Detail of Fig. 2)

FIG. 6



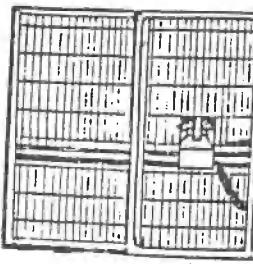
**VIDEO VENDOR**

4225 MAIN STREET  
SKOKIE, IL 60075

Service Department

## Technical Service Bulletin #13

Of Interest  General Manager  Sales Manager  Service Manager  Parts Manager  Service Technicians



### TESTING FOR AND UNDERSTANDING THE PROPER VOLTAGE READINGS ON THE MAIN PROCESSOR BOARD (MPB-1000)

#### DESCRIPTION:

THE MAIN PROCESSOR BOARD IS THE BRAINS BEHIND THE VENDOR. THIS BOARD IS LOCATED ON THE RIGHT SIDE OF THE ELECTRONICS COMPARTMENT AND MEASURES APPROXIMATELY 10 x 14 inches. (See Fig. 1)

There are 8 PLUG-IN CONNECTIONS for CABLE ASSEMBLIES to connect to...

THESE ARE LABELED J1-J8

There are 5 TEST POINTS for TESTING THE AVAILABLE VOLTAGES as they come into the board...

THESE ARE LABELED TP1 - TP5

THE RECOMMENDED TEST INSTRUMENT IS....

VIDEO VENDOR'S POCKET-SIZED DIGITAL MULTIMETER

Any quality digital voltmeter can be used but VIDEO VENDOR'S POCKET-SIZED MULTIMETER is the one chosen by our service people and is available from ... VIDEO VENDOR - CURRENT PRICE \$63.75.

-When doing these tests keep the POWER ON and THE DIAGNOSTICS SCREEN ON THE MONITOR-

+++ AT ALL TIMES EXERCISE CAUTION: 120 VOLTS AC IS PRESENT IN THE DRAWER WHEN POWER IS ON +++

#### TESTING

See Fig. 1: TP1 - TP4 are Circled "A". TP5 is Circled "B"

SET YOUR VOLTMETER TO VOLTAGE (DC)

NOTE: Voltages BELOW 1 volt are considered LOW SIGNALS  
ABOVE 3 volts are considered HIGH SIGNALS.

YOU MAY NOT GET THE ACTUAL READINGS SHOWN, BUT IF YOUR READING FALLS WITHIN THE HIGH OR LOW RANGE IT IS ACCEPTABLE.

(See Fig. 2)  
TOUCH THE:

NEGATIVE LEAD (PROBE) TO TP2 (GROUND)  
POSITIVE LEAD TO:

	AVERAGE READINGS	ACTUAL READINGS
TP1	12 VOLTS DC	11.96
TP3	-12 VOLTS DC	-12.01
TP4	5 VOLTS DC	4.89
TP5		GROUND

IF YOUR ACTUAL READINGS FALL 5% ABOVE OR 5% BELOW THESE AVERAGE READINGS, THEN YOU MUST ADJUST THE MAIN POWER SUPPLY. See Fig. 9 "A". Adjust clockwise or counterclockwise while paying CLOSE ATTENTION to your voltmeter.

---

### TESTING the J-CONNECTOR PLUGS

For these tests MOVE THE BLACK PROBE (NEGATIVE LEAD) to TPS

TOUCH AND PROBE WITH THE POSITIVE LEAD TO EACH TERMINAL IN QUESTION. THE NUMBER 1 TERMINAL IS ALWAYS THE FIRST TERMINAL CONNECTION ON THE LEFT OF EACH J-SOCKET AND IS MARKED ON THE BOARD. SEE CHARTS ON THE FOLLOWING PAGES:

NOTE: The "missing pin" position on each J-Connector counts when numbering pins.

---

### J1 CONNECTOR SOCKET

THIS IS THE RS232 COMMUNICATIONS PORT. A FUTURE BULLETIN WILL DEAL EXCLUSIVELY WITH THIS PORT.

---

### J2 CONNECTOR SOCKET

ACTUAL READINGS	FUNCTION PERFORMED
#1 GROUND	
#2 -12 DC	POWER SUPPLY INPUT
#3 +5 DC	POWER SUPPLY INPUT
#4 +12 DC	POWER SUPPLY INPUT
#5 GROUND	

### J3 CONNECTOR SOCKET

See Fig. 3 (outputs to Motor Controller Board)

Use the keypad to create the proper situations for the readings:

ACTUAL READINGS	CONDITIONS	FUNCTION PERFORMED
#1 4.89 DC	ACCESS DOOR LOCKED	FORWARDS COMPUTER INSTRUCTION TO MOTOR CONTROLLER BOARD TO LOCK OR UNLOCK ACCESS DOOR
.099 DC	IF <input type="checkbox"/> 1 KEY PUSHED DOOR UNLOCKS	
NOTE:	Door will only unlock if magnet is in front of reed switch in door frame.	
#2 4.89 DC	BEEPER OFF	BEEPER
.099 DC	BEEPER ON push key <input type="checkbox"/> 0	
#3 4.89 DC	IF MONEY SOLENOID NOT ON	MONEY-COIN RELEASE
.099 DC	IF COIN RELEASE SOLENOID CLICKS push key <input type="checkbox"/> ←	
#4 4.89 DC	NORMAL: NO MOVEMENT OR GOING RIGHT	X-DIRECTION SELECT
.124 DC	WHEN TAPE CARRIER MOVING LEFT (See #6 below)	
#5	NOT USED	KEY
#6 .122 DC	X-MOTOR ON; CARRIER MOVING LEFT OR RIGHT push key <input type="checkbox"/> 4 or <input type="checkbox"/> 6	X-MOTOR ON
4.89 DC	X-MOTOR OFF; NO MOVEMENT	
#7 4.89 DC	NORMAL: X-CARRIER NOT IN SLOW SPEED	X-MOTOR SLOW SELECT
.011 DC	WHEN X GOES INTO SLOW SPEED ON FINAL POSITIONING	
#8		GROUND
#9 4.89 DC	WHEN Z-MOTOR NOT ON	Z-MOTOR ON
.118 DC	WHEN Z-MOTOR IS ON push key <input type="checkbox"/> 7 or <input type="checkbox"/> 9	

ACTUAL READINGS	CONDITIONS	FUNCTION PERFORMED
#10 4.90 DC	ALWAYS ON	+5 VOLT POWER SUPPLY
#11 .121 DC 4.89 DC	Z-DIRECTION AT REST OR GOING OUT Z-DIRECTION GOING IN push key <b>9</b>	Z-DIRECTION SELECT
#12 4.89 DC .100 DC	GRABBER OFF GRABBER ON push key <b>3</b>	GRABBER SOLENOID
#13 4.89 DC .123 DC	Y-MOTOR OFF or GOING DOWN Y-MOTOR GOING UP push key <b>2</b> or <b>8</b>	Y-MOTOR DIRECTION SELECT
#14 4.89 DC .121 DC	Y-MOTOR OFF Y-MOTOR ON push key <b>2</b> or <b>8</b>	Y-MOTOR ON
#15 4.89 DC .122 DC	NORMAL: MOTOR NOT IN SLOW SPEED WHEN MOTOR GOES INTO SLOW ROUTINE TO FIND SHELF	Y-MOTOR SLOW SELECT

#### J4 CONNECTOR SOCKET See Fig.4

ACTUAL READINGS	CONDITIONS	DIAGNOSTICS SCREEN SHOWS	FUNCTION PERFORMED
#1-#3	NOT USED		NONE
#4	NO CONNECTION		KEY
#5			GROUND
#6 .015 DC 4.91 DC	NO TAPE IN CARRIER TAPE IN CARRIER	NO YES	TAPE FRONT (infra-red sensor)
#7 .3.61 DC .119 DC	BODY SENSOR UNCOVERED BODY SENSOR COVERED	NO YES	BODY SENSOR (infra-red sensor)
#8 4.12 DC .015 DC	WHEN NOT AT HOME WHEN HOME	NO YES	X-HOME SENSOR (infra-red sensor)
#9 .001 DC 4.85 DC	DOOR OPEN DOOR CLOSED	YES NO	ACCESS DOOR (small lexan)

	ACTUAL READINGS	CONDITIONS	DIAGNOSTICS SCREEN SHOWS	FUNCTION PERFORMED
#10	4.19 DC .005 DC	WHEN NOT AT HOME WHEN AT HOME	NO YES	Y-HOME (infra-red sensor)
#11	4.92 DC .082 DC	TAPE IN CARRIER NO TAPE IN CARRIER	YES NO	TAPE BACK (infra-red sensor)
#12	.017 DC 4.85 DC	GRABBER CARRIER OUT touching rear limit switch GRABBER CARRIER FORWARD not touching rear switch	YES NO	GRABBER OUT (mechanical switch)
#13	.017 DC 4.85 DC	GRABBER CARRIER FORWARD touching front limit switch GRABBER CARRIER REARWARD not touching front switch	YES NO	GRABBER IN (mechanical switch)
#14	.089 DC 4.18 DC	WHEN ENCODER WHEEL IS BLOCKING WHEN HOLE ALIGNS WITH ENCODER		Y-COUNTER
#15	.089 DC 4.18 DC	WHEN ENCODER WHEEL IS BLOCKING WHEN HOLE ALIGNS WITH ENCODER		X-COUNTER

### 35 CONNECTOR SOCKET

See Fig. 5

These readings are difficult to make with a voltmeter because they are scanning frequency signals.

	ACTUAL READINGS	CONDITIONS	FUNCTION PERFORMED
#1			GROUND
#2		NOT USED	
#3		NO CONNECTION	KEY
#4	4.83 DC	NO CARD IN READER	CREDIT CARD READER
#5	3.07 DC 4.83 DC	ON CARD READ NO CARD	READING CR. CARD MAGNETIC STRIPE
		A voltage change of at least 1 volt indicates might be OK.	
#6	4.83 DC .002 DC	NO CARD CARD PASSING THRU	DETECTING CR. CARD PRESENCE

ACTUAL READINGS	CONDITIONS	FUNCTION PERFORMED
#7 4.84 DC 3.48 DC	NORMAL 4, 5, 6	KEY PAD KEYS
#8 3.48 DC	7, 8, 9	KEY PAD KEYS
#9 3.26 DC	1, 2, 3	KEY PAD KEYS
#10 3.36 DC	←, 0, ENTER	KEY PAD KEYS
#11	NOT USED	
#12 4.83 DC	NORMAL	
#13 .012 DC	SHORT PULSE HIGH	
#14 .013 DC	SHORT PULSE HIGH	
#15	NOT USED	

#### J4 CONNECTOR SOCKET

See Fig. 6

ACTUAL READINGS	CONDITIONS	DIAGNOSTICS SCREEN SHOWS	FUNCTION PERFORMED
#1	SHORT DURATION PULSE WHEN ERROR CODE REPORTED ON MONITOR		
.016 DC	NORMAL READING		DIALER
4.86 DC	ON ERROR - SHORT PULSE Probably not readable on voltmeters. Try setting meter to AC. A Voltage change indicates system probably OK.		
NOTE: This output currently not used, but destined to operate future phone dialer to advise service dept. that machine is down. This option is currently under development.			
#2	NO CONNECTION		KEY
#3-#5	CURRENTLY NOT USED		
#6 4.85 DC .016 DC	NO DOLLAR BILL GOES THRU VALIDATOR AS BILL IS ACCEPTED	Bill Pulse FLICKERS to Indicate COUNT	BILL PULSE
NOTE: Pulse duration too short to be read by voltmeter. The number of pulses related to the bill denomination.			

ACTUAL READINGS	CONDITIONS	DIAGNOSTICS SCREEN SHOWS	FUNCTION PERFORMED
#7 4.85 DC	NORMAL READING		LABEL READER
NOTE: Pulse information too short to be read on meter.			
#8 4.85 DC	TAPE NOT IN CARRIER	Tape Top NO	TAPE TOP
.005 DC	TAPE IN CARRIER	Tape Top YES	
#9 3.49 DC	NORMAL READING- NO KEY PRESSED		KEY PAD column 4
4.85 DC	KEY PRESSED		
#10 3.56 DC	NO KEY PRESSED		
4.85 DC	KEY PRESSED		
#11 3.56 DC	NO KEY PRESSED		
4.85 DC	KEY PRESSED		
#12 3.54 DC	NO KEY PRESSED Voltage drops 2.7 2.8		KEY PAD column 1
#13 4.85 DC	NO COIN IN MECHANISM MICROSWITCH WIRE UP		COIN PULSE
.008 DC	COIN DROPS THRU LOWERS MICROSWITCH WIRE		
#14 4.85 DC	NOTHING TOUCHING MEMBRANE COVER	Tape Wrong NO	TAPE WRONG
.006 DC	SOMETHING RESTING ON MEMBRANE COVER	Tape Wrong YES	
#15 .000 DC	EITHER DOOR OPEN	Top and/or Bottom YES	SERVICE DOORS
4.85 DC	DOORS CLOSED	Top and Bottom NO	

### J7 CONNECTOR SOCKET

See Fig. 7

Normally cannot be read with voltmeter but these readings are indicative of system normal.

ACTUAL READINGS	CONDITIONS	FUNCTION PERFORMED
#1-#5 4.99 DC	NORMAL	
.228 DC	PRINTER JAMMED IN ERROR	PRINTER

ACTUAL READINGS	CONDITIONS	FUNCTION PERFORMED
#6	NO CONNECTION	KEY
#7	4.93 DC NOT PRINTING 2.06 DC DURING PRINTING	PRINTER
#8-#14	4.99 DC PRINTING ON or OFF	PRINTER

### J8 CONNECTOR SOCKET

(Video outputs)

Normally cannot be checked by voltmeter.

ACTUAL READING	FUNCTION PERFORMED
#1-#6	GROUNDS
#7	KEY
#8-#10	GROUNDS
#11 .300 AC Should drop slightly with less printing on screen.	COMPOSITE VIDEO OPEN
#12	VERTICAL SYNC
#13 AC SETTING CONSTANT VOLTAGE CYCLE: 18V to 0V.	C SYNC
#14	OPEN
#15	HORIZONTAL SYNC

VIDEO OUTPUT can be checked by connecting a monitor to PHONO JACK output holes. Use a shielded coax cable and connect shield to either large hole, center wire to small hole. See Fig. 1, Circled "C". Image should appear on monitor screen if NPB-1000 is OK.

FIG. 1 MAIN PROCESSOR BOARD (MPB-1000)

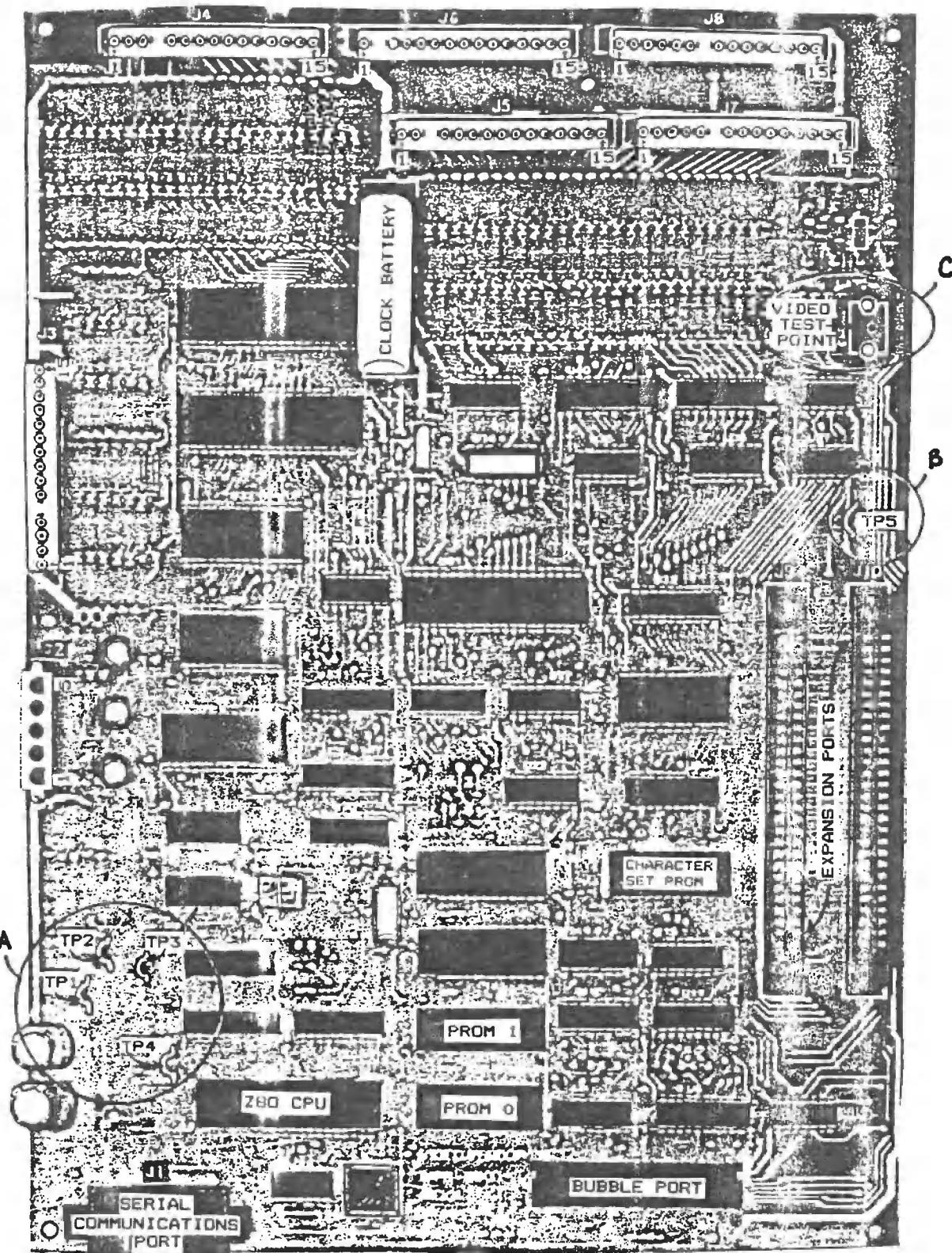


FIG. 2

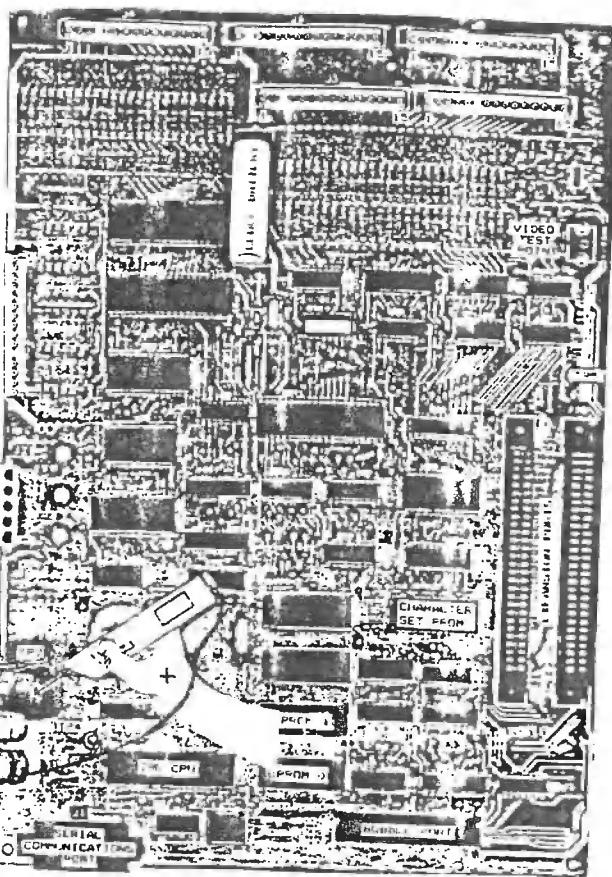


FIG. 3

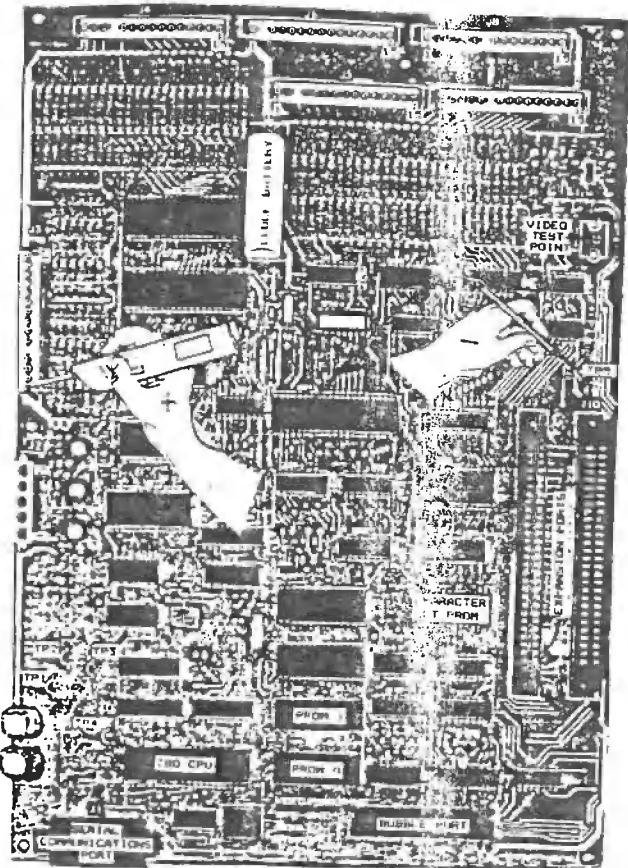


FIG. 4

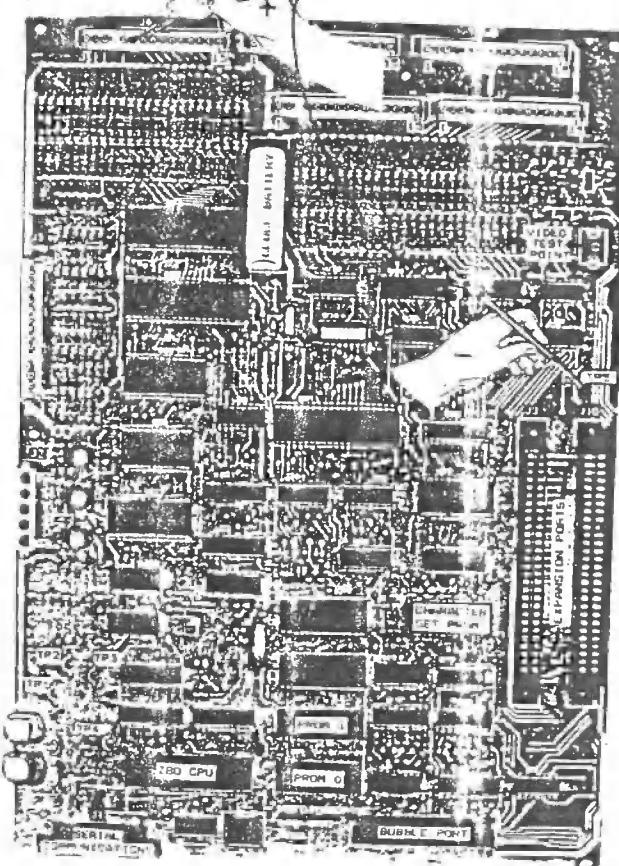


FIG. 5

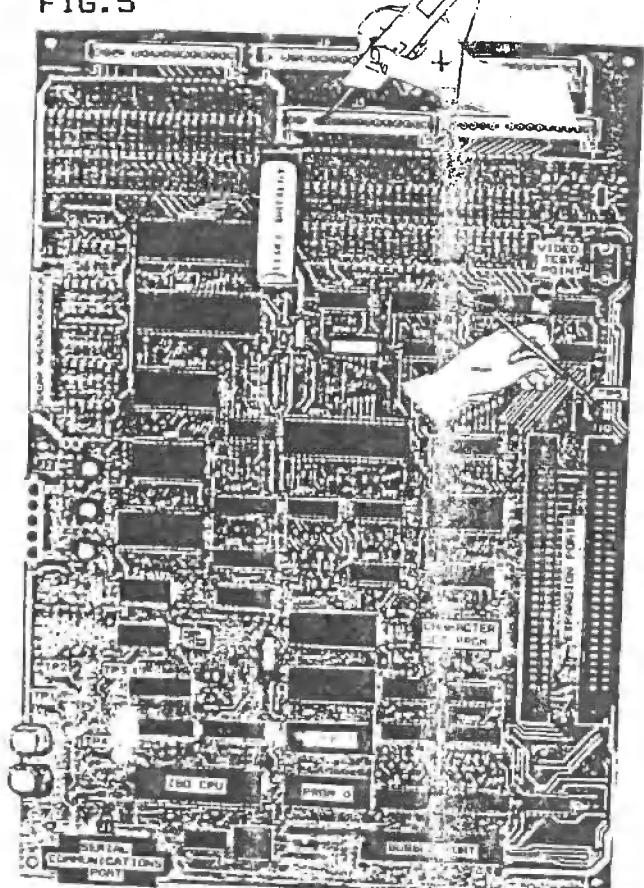


FIG. 6

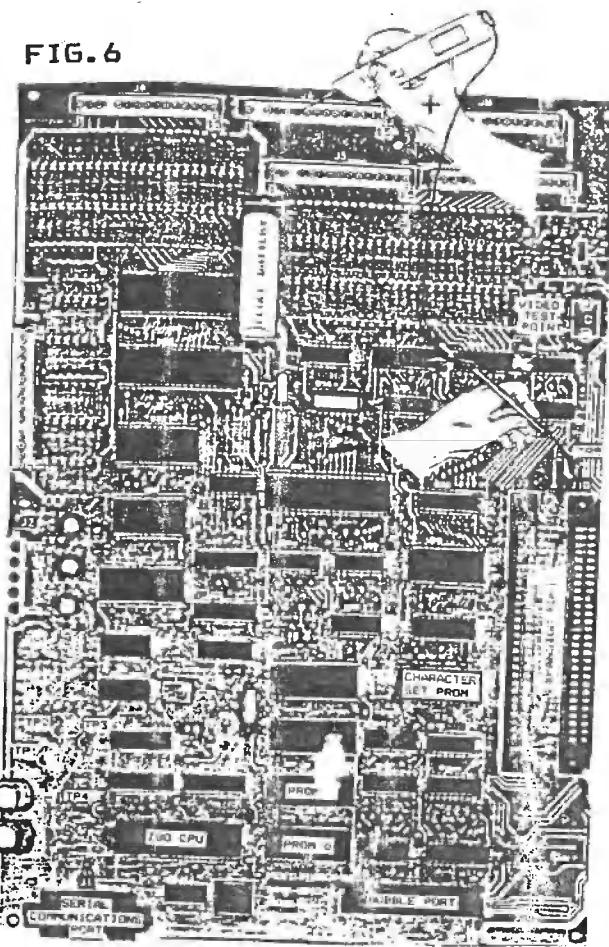


FIG. 7

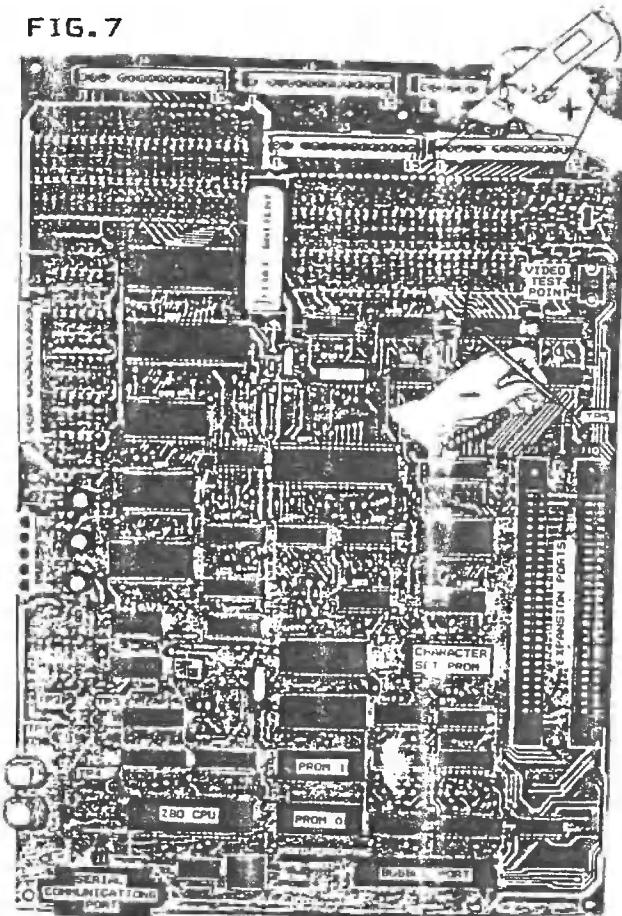


FIG. 8

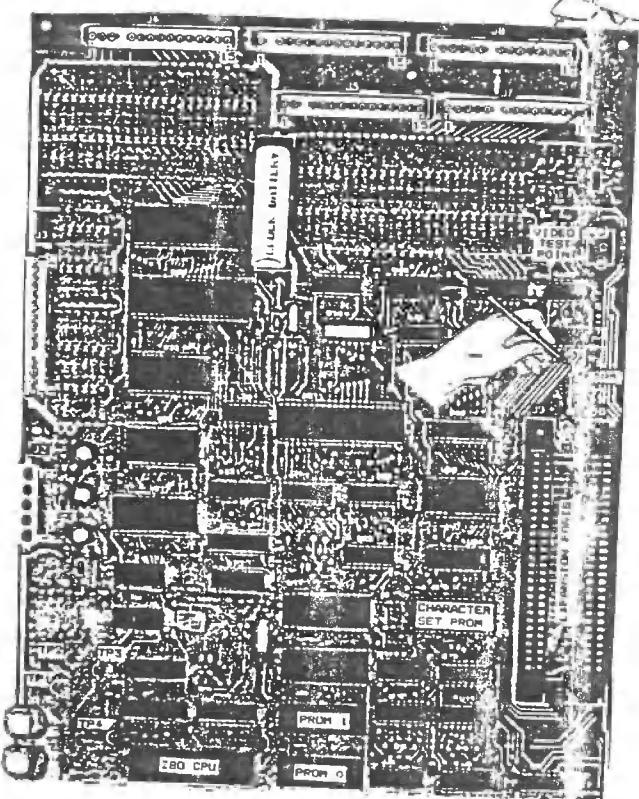
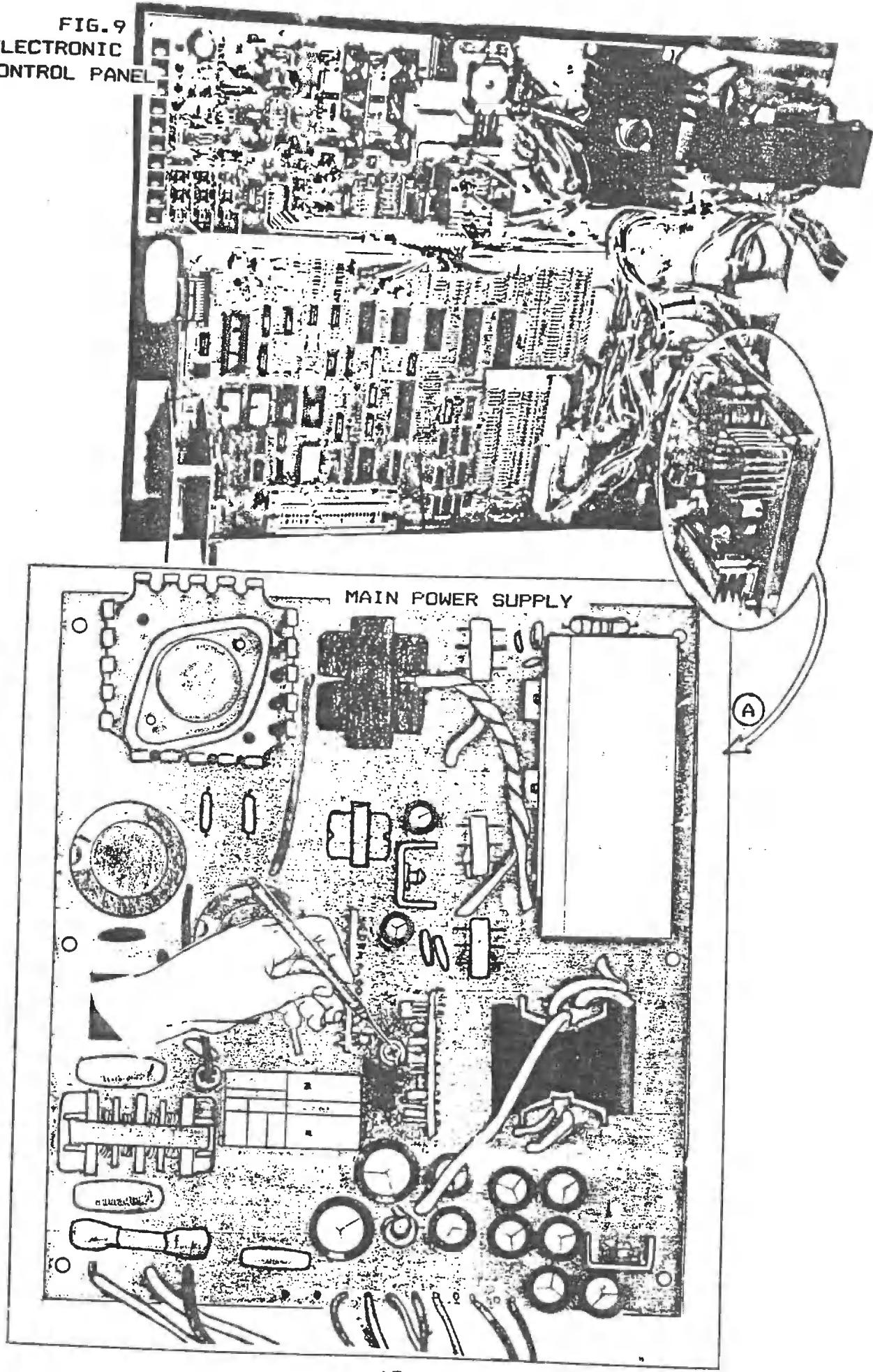
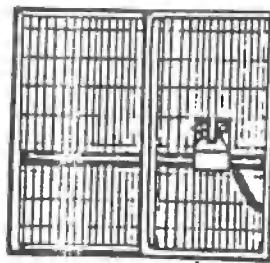


FIG. 9  
ELECTRONIC  
CONTROL PANEL



**VIDEO VENDOR**6228 MAIN STREET Service Department  
SKOKIE, IL 60076**Technical Service Bulletin #13a.**Of Interest:  General Manager  Sales Manager  Service Manager  Parts Manager  Service Technicians**TESTING FOR AND UNDERSTANDING  
THE PROPER  
VOLTAGE READINGS  
ON THE  
MOTOR CONTROLLER BOARD (MCB-1000)****DESCRIPTION:**

THE MOTOR CONTROLLER BOARD IS THE POWER BEHIND THE MECHANICAL MOVEMENT OF THE VIDEO VENDOR. THIS BOARD IS LOCATED ON THE LEFT SIDE OF THE ELECTRONICS COMPARTMENT AND MEASURES APPROXIMATELY 6 x 11 inches. (See FIG. 1)

There are 5 PLUG-IN CONNECTIONS for CABLE ASSEMBLIES to connect to... THESE ARE LABELED J1 - J5

There are 2 TEST POINTS for TESTING THE AVAILABLE VOLTAGE on the board...

TEST POINTS ARE LABELED +24 and GND

THE RECOMMENDED TEST INSTRUMENT IS ...

FLUKE MODEL 73 DIGITAL MULTIMETER

-When doing these tests keep the POWER ON and THE DIAGNOSTICS SCREEN, FEATURE 19 ON THE MONITOR-

+++ AT ALL TIMES EXERCISE CAUTION: 120 VOLTS AC IS PRESENT IN THE DRAWER WHEN POWER IS ON +++

**TESTING**

See Fig.1: TP +24 - Circled "A", TP GND - Circled "B".

SET YOUR VOLTMETER TO VOLTAGE (DC)

NOTE: Voltages BELOW 1 volt are considered LOW SIGNALS  
ABOVE 3 volts are considered HIGH SIGNALS.

YOU MAY NOT GET THE ACTUAL READINGS SHOWN, BUT IF YOUR READING FALLS WITHIN THE HIGH OR LOW RANGE IT IS ACCEPTABLE.

TOUCH THE:

NEGATIVE LEAD (PROBE) TO -TP GND (GROUND)  
POSITIVE LEAD TO:

	AVERAGE READINGS	ACTUAL READINGS
TP +24	24 VOLTS DC	23.16

IF YOUR ACTUAL READINGS FALL 10% ABOVE OR 10% BELOW THESE AVERAGE READINGS CALL VIDEO VENDOR, INC. FOR ADVICE.

### TESTING the J-CONNECTOR PLUGS

For testing J1 ONLY the ground (TP5) on the MPB-1000 must be used. See Technical Service Bulletin #13 page 9, Circled "B".

For testing J2 - J5 LEAVE THE BLACK PROBE (NEGATIVE LEAD) on TP GND Circled "B".

TOUCH AND PROBE WITH THE POSITIVE LEAD TO EACH TERMINAL IN QUESTION. THE NUMBER 1 TERMINAL IS ALWAYS THE FIRST TERMINAL CONNECTION ON THE LEFT OF EACH J-SOCKET AND IS MARKED ON THE BOARD. SEE CHARTS ON THE FOLLOWING PAGES:

NOTE: The "missing pin" position on each J Connector counts when numbering pins.

#### J1 CONNECTOR SOCKET

See FIG. 1 (inputs from Micro Processor Board MPB-1000)  
Use the keypad to create the proper situations for the readings:

ACTUAL READINGS	CONDITIONS	FUNCTION PERFORMED
#1 4.89 DC	ACCESS DOOR LOCKED	RECEIVES COMPUTER
.099 DC	IF <input type="checkbox"/> KEY PUSHED DOOR UNLOCKS	INSTRUCTION FROM MAIN PROCESSOR BOARD TO LOCK OR UNLOCK ACCESS DOOR BY ACTIVATING Q16

NOTE: Door will only unlock if magnet is in front of reed switch in door frame.

ACTUAL READINGS	CONDITIONS	FUNCTION PERFORMED
#2 4.89 DC .099 DC	BEEPER OFF BEEPER ON push key 0	BEEPER

ACTUAL READINGS	CONDITIONS	FUNCTION PERFORMED
#3 4.89 DC .099 DC	IF MONEY SOLENOID NOT ON IF COIN RELEASE SOLINOID CLICKS push key <input type="button" value="←"/>	MONEY-COIN RELEASE
#4 4.89 DC .124 DC	NORMAL: NO MOVEMENT OR GOING RIGHT WHEN TAPE CARRIER IS MOVING LEFT (See #6 below)	X-DIRECTION SELECT
#5	NOT USED	KEY
#6 .122 DC 4.89 DC	X-MOTOR ON: CARRIER MOVING LEFT OR RIGHT push key <input type="button" value="4"/> or <input type="button" value="6"/> X-MOTOR OFF; NO MOVEMENT	X-MOTOR ON
#7 4.89 DC .011 DC	NORMAL: X-CARRIER NOT IN SLOW SPEED WHEN X GOES INTO SLOW SPEED ON FINAL POSITIONING	X-MOTOR SLOW SELECT
#8		GROUND
#9 4.89 DC .118 DC	WHEN Z-MOTOR NOT ON WHEN Z-MOTOR IS ON push key <input type="button" value="7"/> or <input type="button" value="9"/>	Z-MOTOR ON
#10 4.90 DC	ALWAYS ON	+5 VOLT POWER SUPPLY
#11 .121 DC 4.89 DC	Z-DIRECTION AT REST OR GOING OUT Z-DIRECTION GOING IN push key <input type="button" value="9"/>	Z-DIRECTION SELECT
#12 4.89 DC .100 DC	GRABBER OFF GRABBER ON push key <input type="button" value="3"/>	GRABBER SOLENOID
#13 4.89 DC .123 DC	Y-MOTOR OFF or GOING DOWN Y-MOTOR GOING UP push key <input type="button" value="2"/> or <input type="button" value="8"/>	Y-MOTOR DIRECTION SELECT
#14 4.89 DC .121 DC	Y-MOTOR OFF Y-MOTOR ON push key <input type="button" value="2"/> or <input type="button" value="8"/>	Y-MOTOR ON
#15 4.89 DC .122 DC	NORMAL: MOTOR NOT IN SLOW SPEED WHEN MOTOR GOES INTO SLOW ROUTINE TO FIND SHELF	Y-MOTOR SLOW SELECT

All readings are made with the black lead of the meter on a MCB test ground loop and the red lead touching the numbered pin indicated under "PIN". Refer to Fig. 1 for location on MCB.

### J2 CONNECTOR SOCKET

PIN	NORMAL OPERATION	3 AMP FUSE BLOWN	INTERLOCK OPEN	FUNCTION	WIRE COLOR
1	23.8 + 3	.3	23.2	+24V DC unreg	org/blk
2	.1 .0 press <input type="button" value="←"/> on keypad	.0		BILL VALIDATOR	gry/blk
3	.0 22.6	.9 .0	22.6 0	SONALET: no sound SONALET: beeping	blk/brn
4	23.6 0.0 press <input type="button" value="COIN"/> button on MCB	.0		COIN LOCKOUT	grn/yel
5				KEY	
6	23.4	0	23.4	+24V DC	red/gry

### J3 CONNECTOR SOCKET

PIN	NORMAL OPERATION	3 AMP FUSE BLOWN	INTERLOCK OPEN	FUNCTION	WIRE COLOR
1	1.0 21.0	0 0	10.0 1.0	X-MOTOR LEFT X-MOTOR RT	blk
2	21.0 .8	0 0	10.0 .8	X-MOTOR LEFT X-MOTOR RT	wht/yel
3	20.0 .8	0 0	13.0 .7	Y-MOTOR UP Y-MOTOR DOWN	grn/red
4	1.1 20.0	0 0	13.0 .9	Y-MOTOR UP Y-MOTOR DOWN	yel/blu
5	29.6 + 3	.3	29.6	+28V DC unreg	org/blk

PIN	NORMAL OPERATION	3 AMP FUSE BLOWN	INTERLOCK OPEN	FUNCTION	WIRE COLOR
6	23.6	.3	23.6	DOOR CLOSED	grn/blk
	.7	.3	.7	Magnet Deenergised	
				DOOR OPEN	
				Magnet Energised	
7				KEY	
8	0.7	0	0.7	Z-MOTOR IN	wht/blk
	21.0	0	0.7	Z-MOTOR OUT	
9	21.0	0	0.7	Z-MOTOR IN	red/blk
	0.7	0	0.7	Z-MOTOR OUT	
10	29.6	0	29.6	GRABBER OPEN	grn/blk
	0.8	0	0.7	GRABBER CLOSED	

#### J4 CONNECTOR POWER 24V

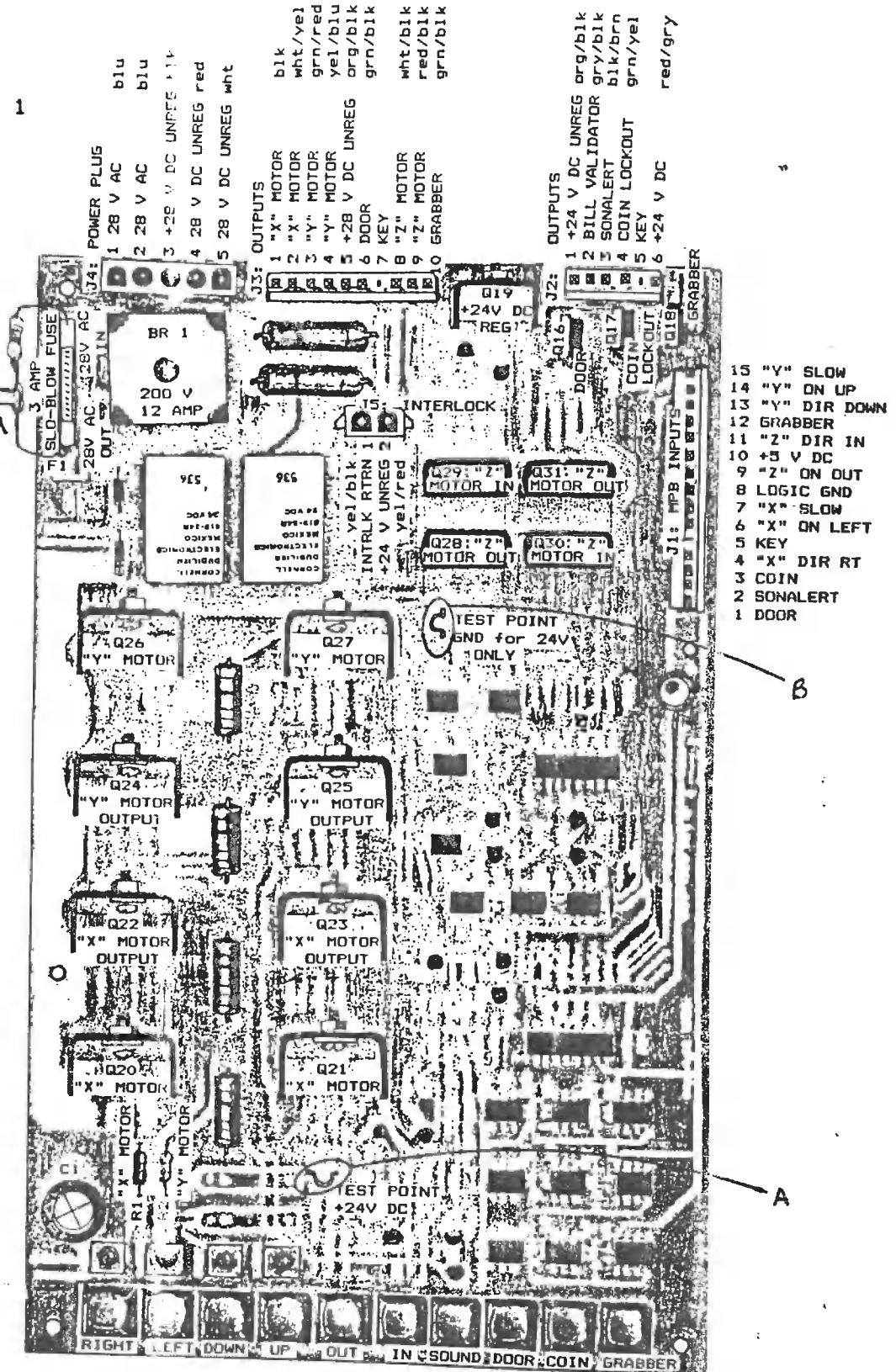
PIN	NORMAL OPERATION		3 AMP FUSE BLOWN		FUNCTION	WIRE COLOR
	AC	DC	AC	DC		
1	14.5	14.5	28.0	0.5	28V AC	blu
2	14.5	14.5	0.5	0.3	28V AC	blu
3		29.5		0.5	+28V DC unreg	blk
4		24.0		0.4	24V DC	red
5		23.5		0.4	24V DC	wht

#### J5 INTERLOCK PLUG

PIN	NORMAL OPERATION	3 AMP FUSE BLOWN	INTERLOCK OPEN	FUNCTION	WIRE COLOR
1	23.8	0.3	22.9	INTRLCK RTN	yel/blk
2	23.8	0.3	23.6	+24V DC unreg	yel/red

FIG. 1

**OPTIONAL**  
Red LED glows when  
a fuse is blown.

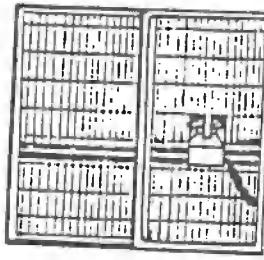


THE MOTOR CONTROLLER BOARD MPB-1000

**VIDEO VENDOR**4235 MAIN STREET Service Department  
SKOKIE, IL 60076**Technical Service Bulletin #14**On Hold  General Manager  Sales Manager  Service Manager  Parts Manager  Service Technicians

OCTOBER 29, 1986

SUBJECT: MODIFYING OLDER VIDEO VENDORS

**I. ADDING CAPACITORS TO THE DRIVE MOTORS TO REDUCE ELECTRICAL NOISE**

Video Vendors manufactured from Nov. 1985 - approx. June 1986 were equipped with Zener diodes across the motor brushes to reduce the brush electrical noise (See FIG. 1). Over a period of time, we have discovered that these Zener diodes can fail. This failure usually results in the drive motors appearing very sluggish or in the fuse (3 amp Slow Blow) on the motor controller board (MCB 1000) blowing out.

On rare occasions you may only see the machine fail to retrieve a tape, coming up short of the slot. Regularly coming up short of the designated slot could be indicative of additional pulses being added to the counters due to the Zener diodes.

To correct the problems described above, first determine whether your machine has the Zener diodes. This is easy to do because all machines already equipped with the capacitor filters have a stainless steel hose clamp holding the unsoldered ends of the capacitor leads against the X- and Y-Motors. See FIG. 2. If these motors on your machine have no hose clamps (See FIG. 1), you will want to plan on upgrading it by ordering: Capacitor Kit #K8A-805. The kit is available with complete instructions to customers who need it at no charge. NOTE: If your machine is working fine, it is not necessary to make this modification immediately. Just order the kit to keep it on hand.

**II. ADJUSTING THE SPRING TENSION ON THE TROLLEY SYSTEM TO REDUCE MECHANICAL FRICTION**

We have found that it is possible to reduce the spring tension on the vertical ball bearing trolley without sacrificing performance. To accomplish this, you will remove two spring washers from each screw in the vertical trolley on both sides of the machine. This should be done immediately as it results in a smoother and faster running machine and will reduce the wear on the vertical rails considerably.

To better understand where this component is located, refer to page 12 of your Parts Manual: detail 12-4A. You will find that using a Hex Ball type Allen wrench will allow you to work at an angle making the job easier. (They are made by Bondhus and are usually available at most large hardware stores.)

1. Open the side door to get at the screws on the vertical trolley -- left side.
2. You must remove only one screw at a time.
3. Take out two (1 pair) Belleville spring washers, ten (5 pair) should remain. See FIG. 3.
4. Replace the screw.
5. Repeat steps 3 & 4 on the other screw.
6. Open the large rear door to get at the screws near the X-motor drive -- right side.
7. Removing one screw at a time, leave ten spring washers (5 pair) under each of the two screws. See FIG. 3.

FIG. 1

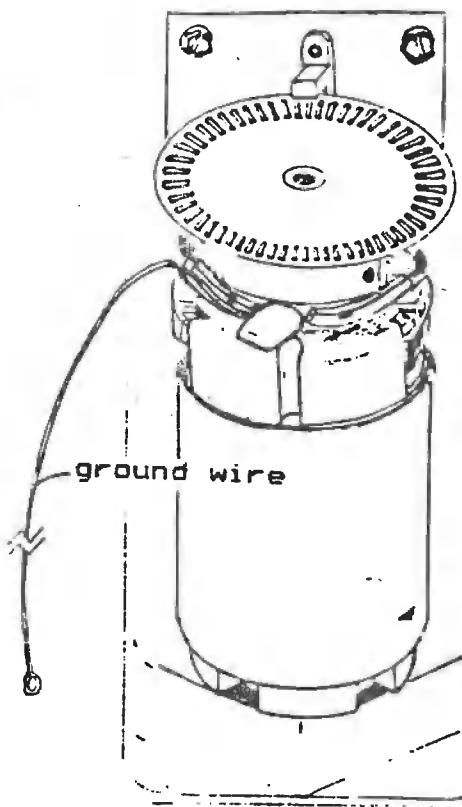


FIG. 2

VERTICAL DRIVE MOTOR (Y-AXIS)

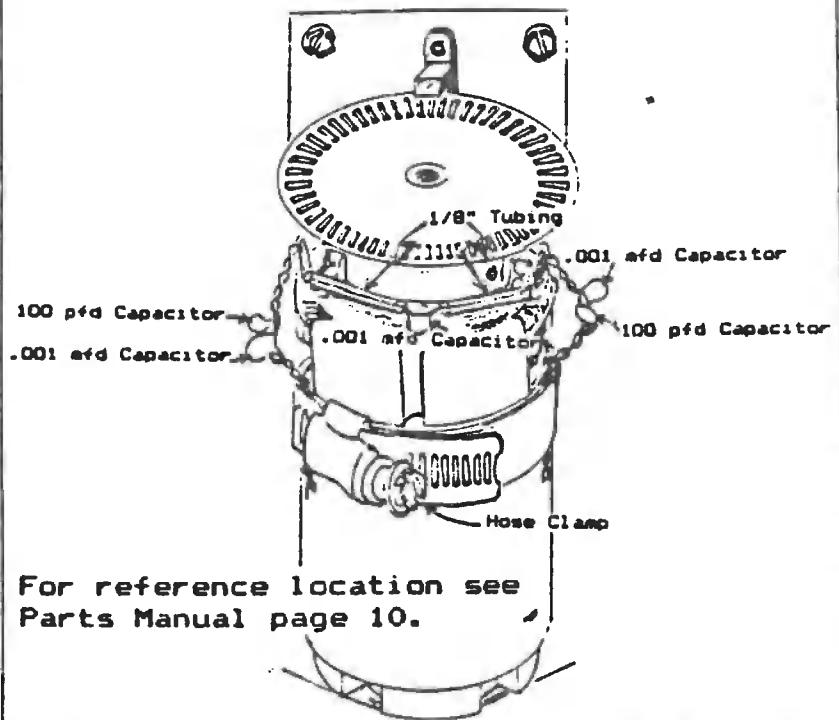
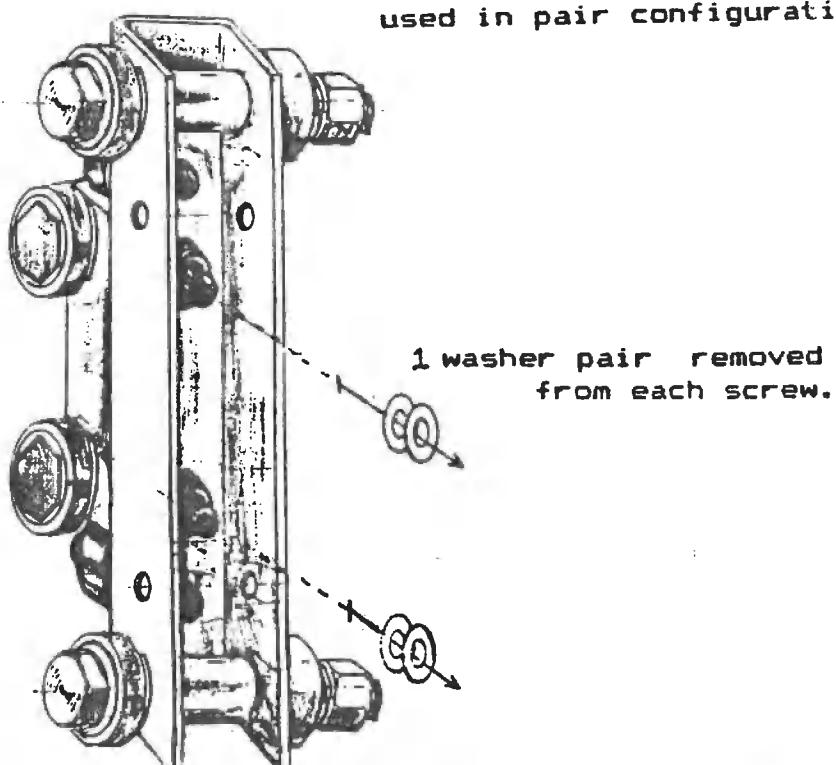


FIG. 3

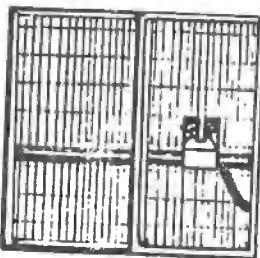
NOTE: Belleville spring washers are used in pair configurations.



VIDEO VENDOR  
401 Main Street Service Department  
Steville, IL 60570

## Technical Service Bulletin #15

Manager  General Manager  Sales Manager  Service Manager  Parts Manager  Service Technicians



DECEMBER 4, 1986

SUBJECT: INTERNAL WIRING DIAGRAMS

During the next few weeks you will be receiving bulletins which show the internal wiring pathways for each of the following circuits:

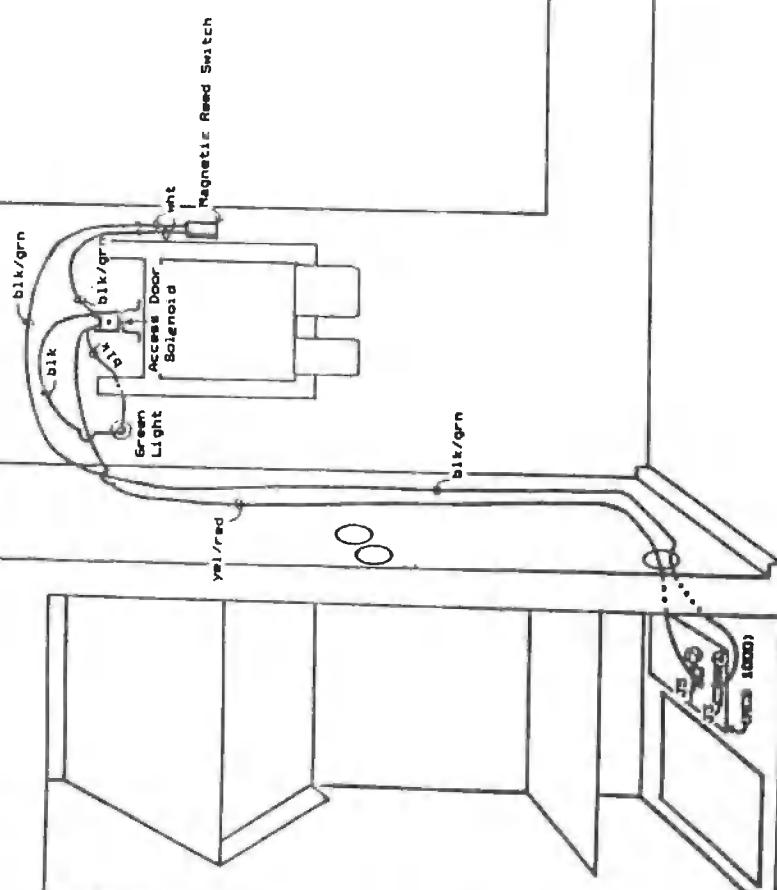
Sent: Topic:

12/4      A. TAPE ACCESS DOOR SOLENOID OPERATION  
12/4      B. MOTOR CONTROL JS INTERLOCK  
            C. HORIZONTAL MOTION "X" MOTOR POWER CONNECTION  
            D. VERTICAL MOTION "Y" MOTOR POWER CONNECTION  
            E. AC LINE CIRCUIT  
            F. HOME ENCODER  
            G. PULSE ENCODER  
            H. DOLLAR BILL VALIDATOR  
            I. COIN PULSE  
            J. KEYPAD  
            K. PRINTER  
            L. MONITOR  
            M. RETRIEVER ASSEMBLY

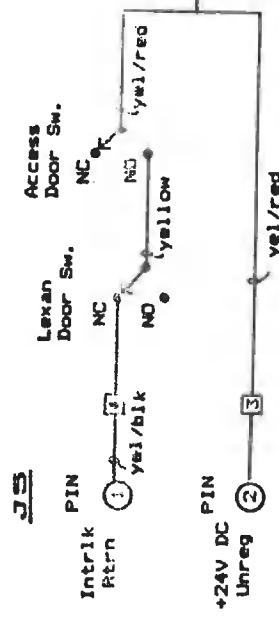
Each circuit is shown in a conceptual drawing done from the REAR VIEW of the Video Vendor. Although it is not always possible to actually see all the wiring shown in these diagrams, cutaways are made and obstructions are left out to provide a comprehensive guide to the connections of the wires in the main harness. Each drawing is accompanied by an electrical schematic diagram of the circuit as well.

Enclosed are A. "TAPE ACCESS DOOR OPERATION" and B. "MOTOR CONTROL JS INTERLOCK" which should prove to be helpful in the event that a wiring problem in the area covered develops.

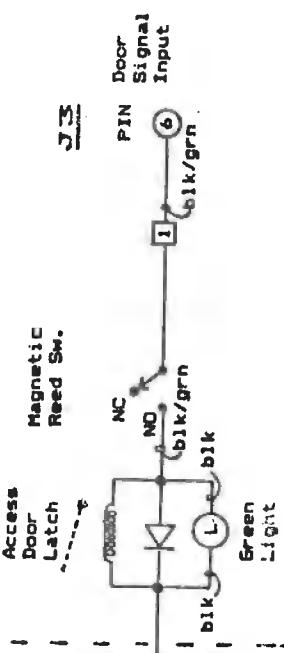
## TAPE ACCESS DOOR SOLENOID OPERATION

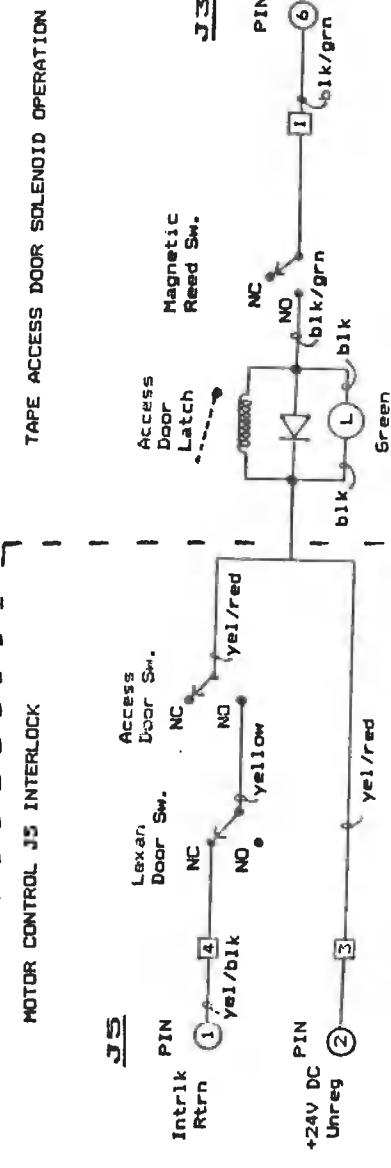
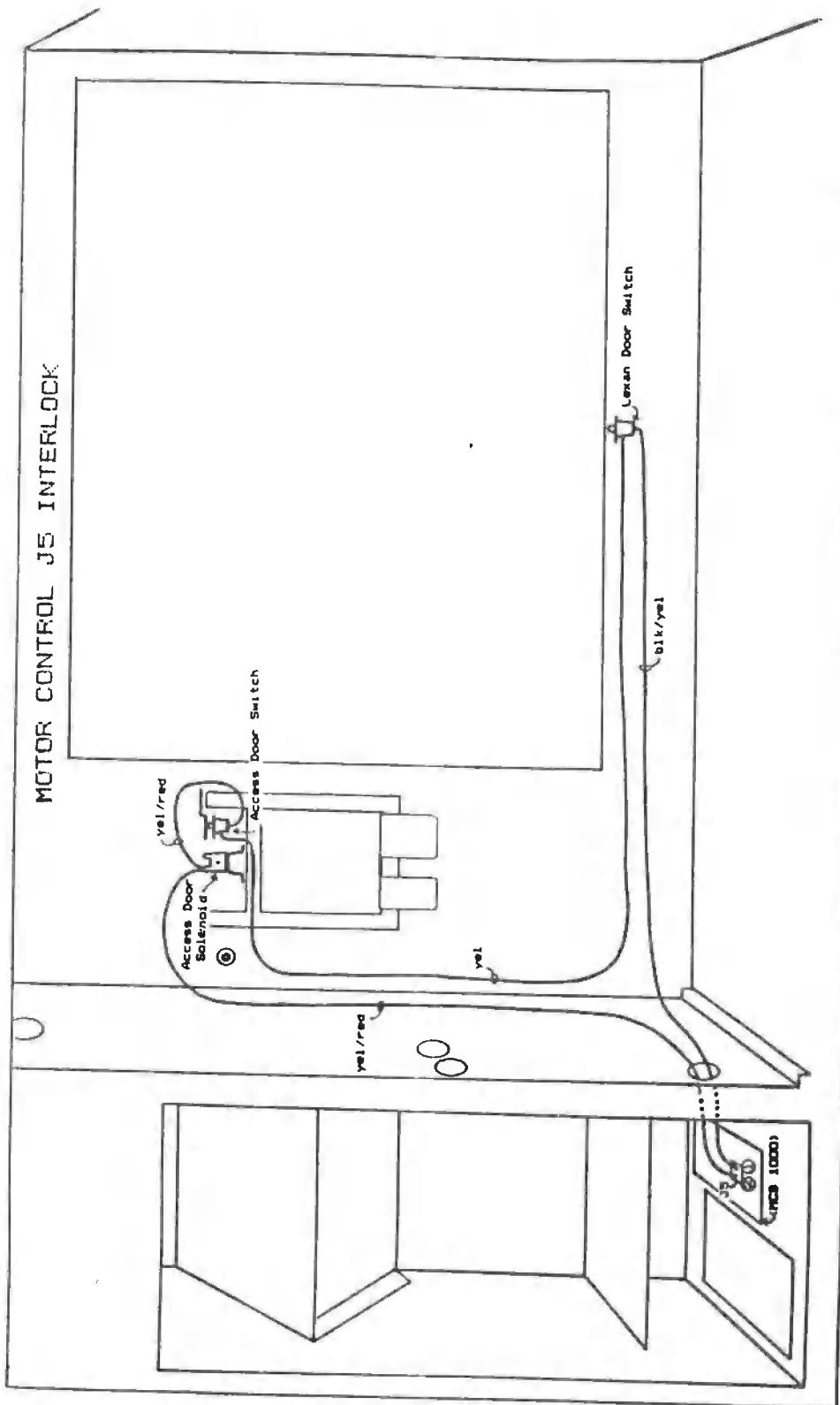


## MOTOR CONTROL J5 INTERLOCK



## TAPE ACCESS DOOR SOLENOID OPERATION

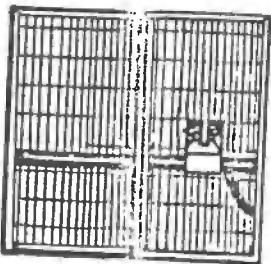




VIDEO VENDOR  
4235 MAIN STREET Service Department  
SKOKIE, IL 60076

## Technical Service Bulletin \*15 a.

Of Interest  General Manager  Sales Manager  Service Manager  Parts Manager  Service Technicians



NOVEMBER 24, 1986

SUBJECT: INTERNAL WIRING DIAGRAMS

This is one of the continuing series of bulletins which show the internal wiring pathways for each of the following circuits:

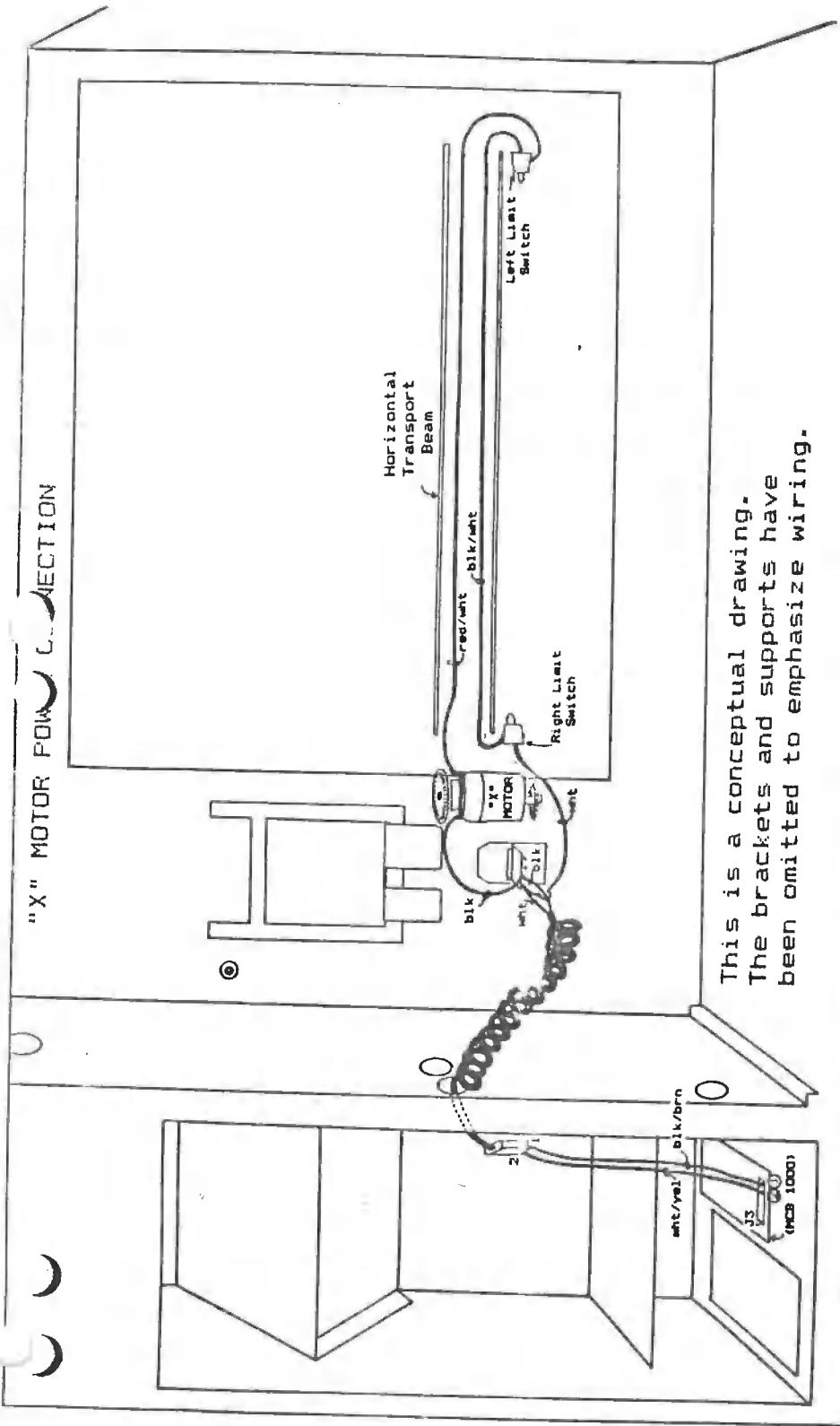
Sent: Topic:

- 11/15 A. TAPE ACCESS DOOR SOLENOID OPERATION
- 11/15 B. MOTOR CONTROL JS INTERLOCK
- 11/25 C. HORIZONTAL MOTION "X" MOTOR POWER CONNECTION
- 11/25 D. VERTICAL MOTION "Y" MOTOR POWER CONNECTION
- E. AC LINE CIRCUIT
- F. HOME ENCODER
- G. PULSE ENCODER
- H. DOLLAR BILL VALIDATOR
- I. COIN PULSE
- J. KEYPAD
- K. PRINTER
- L. MONITOR
- M. RETRIEVER ASSEMBLY

Each circuit is shown in a conceptual drawing done from the REAR VIEW of the Video Vendor. Although it is not always possible to actually see all the wiring shown in these diagrams, cutaways are made and obstructions are left out to provide a comprehensive guide to the connections of the wires in the main harness. Each drawing is accompanied by an electrical schematic diagram of the circuit as well.

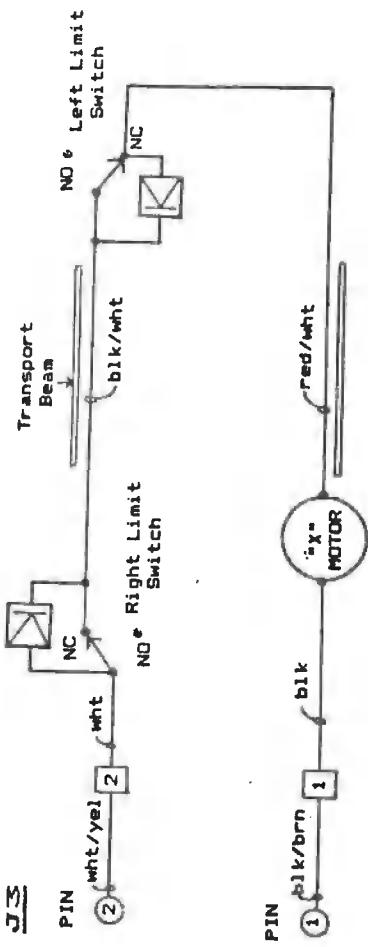
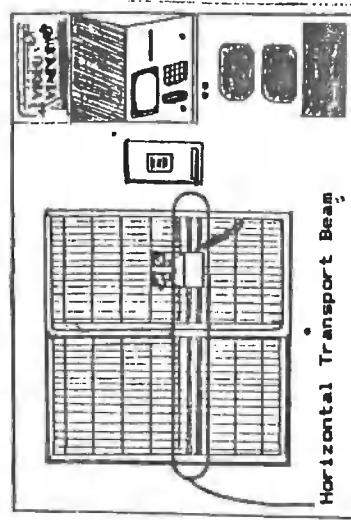
Enclosed are C. "HORIZONTAL MOTION X MOTOR POWER CONNECTION" and D. "VERTICAL MOTION Y MOTOR POWER CONNECTION" which should prove to be helpful in the event that a wiring problem in the area covered develops.

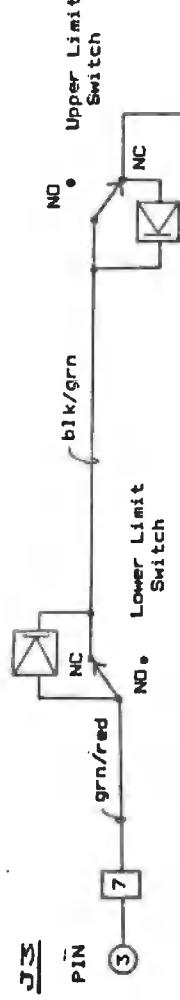
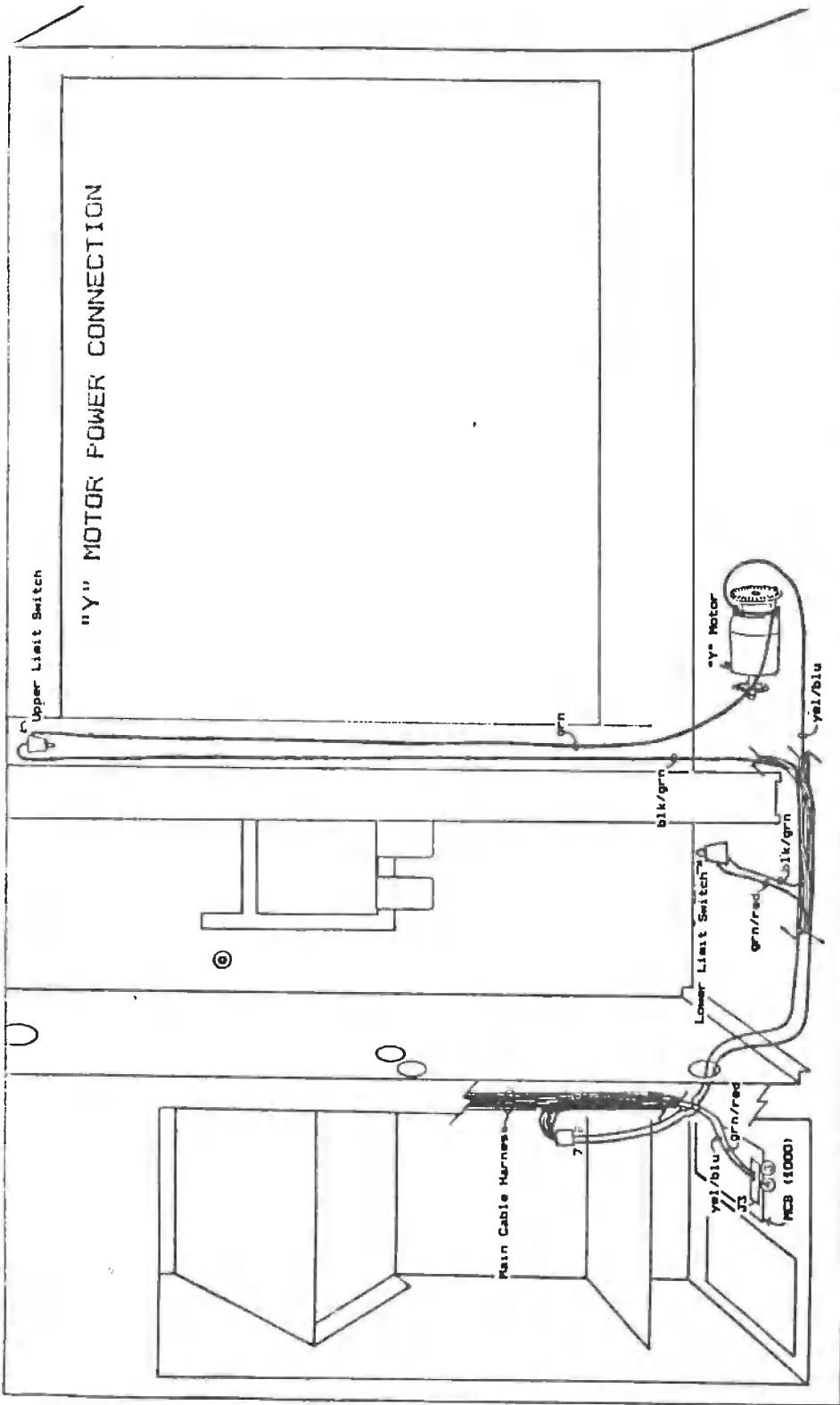
## "X" MOTOR POSITION CONNECTION

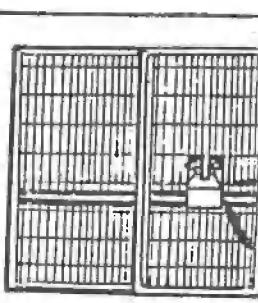


This is a conceptual drawing. The brackets and supports have been omitted to emphasize wiring.

#### **•X• MOTOR POWER CONNECTION**





**VIDEO VENDOR**4235 MAIN STREET  
SKOKIE, IL 60076**Service Department****Technical Service Bulletin #15b** Of Interest  General Manager  Sales Manager  Service Manager  Parts Manager  Service Technician

APRIL 22, 1987

SUBJECT: INTERNAL WIRING DIAGRAMS

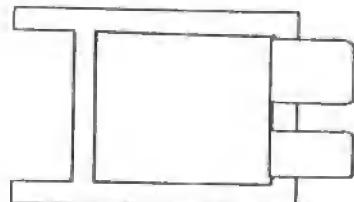
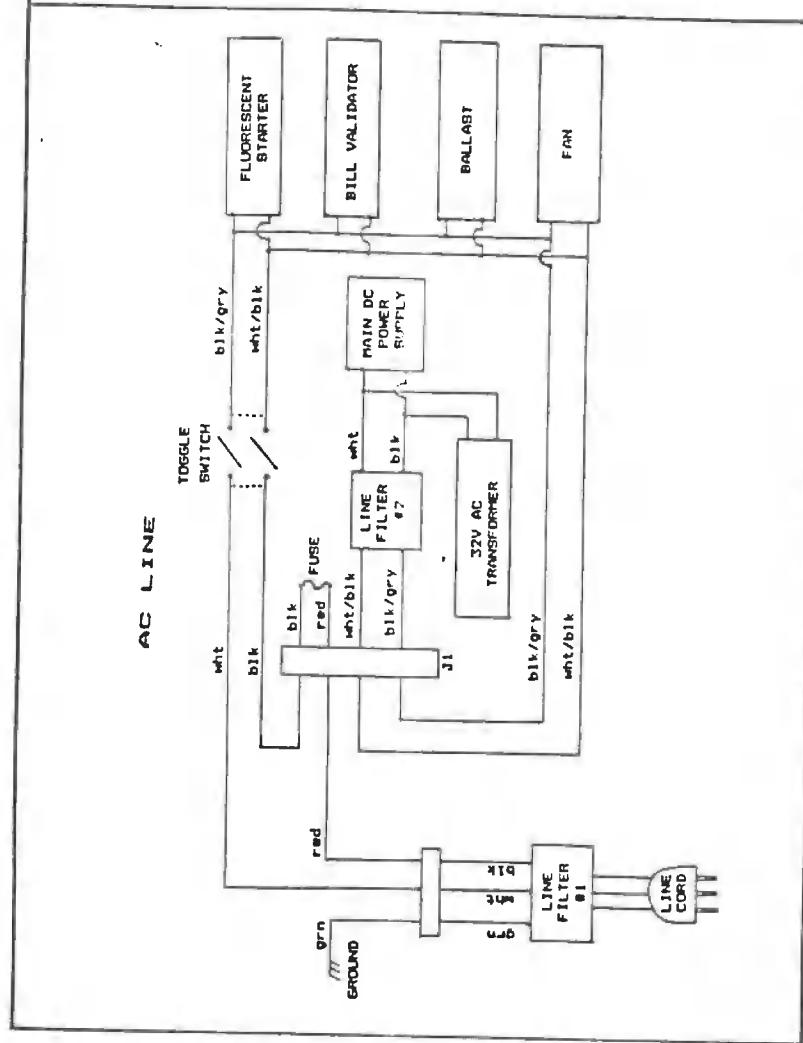
This is one of the continuing series of bulletins which show the internal wiring pathways for each of the following circuits:

Sent: Topic:

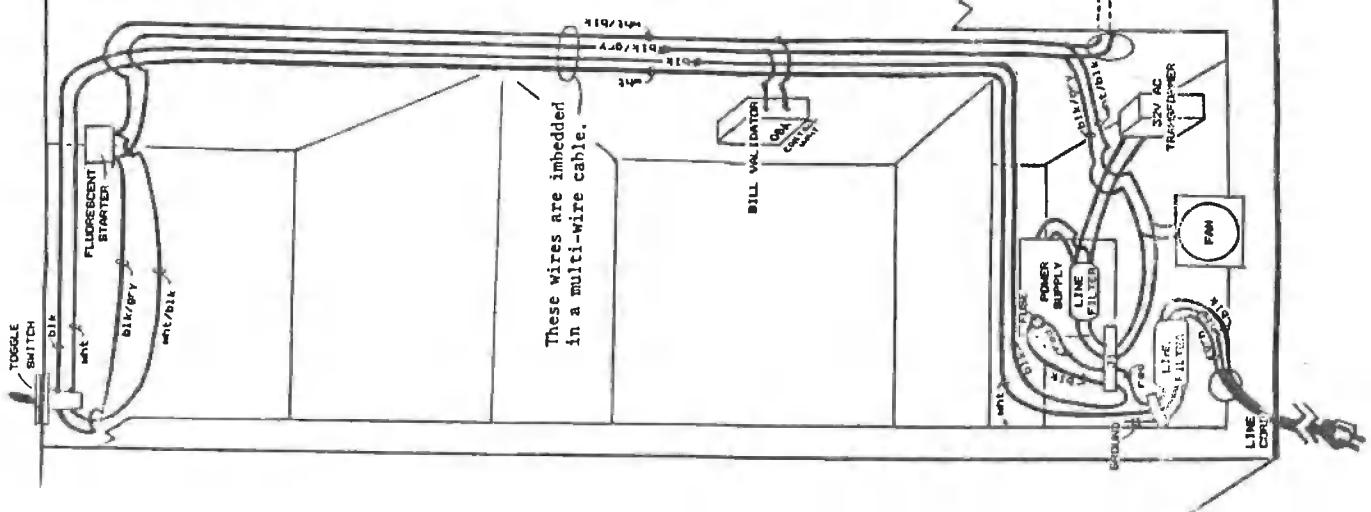
- 11/15 A. TAPE ACCESS DOOR SOLENOID OPERATION
- 11/15 B. MOTOR CONTROL JS INTERLOCK
- 11/25 C. HORIZONTAL MOTION "X" MOTOR POWER CONNECTION
- 11/25 D. VERTICAL MOTION "Y" MOTOR POWER CONNECTION
- 4/22 E. AC LINE CIRCUIT
- F. HOME ENCODER
- G. PULSE ENCODER
- H. DOLLAR BILL VALIDATOR
- I. COIN PULSE
- J. KEYPAD
- K. PRINTER
- L. MONITOR
- M. RETRIEVER ASSEMBLY

Each circuit is shown in a conceptual drawing done from the REAR VIEW of the Video Vendor. Although it is not always possible to actually see all the wiring shown in these diagrams, cutaways are made and obstructions are left out to provide a comprehensive guide to the connections of the wires in the main harness. Each drawing is accompanied by an electrical schematic diagram of the circuit as well.

Enclosed is E. "AC LINE CIRCUIT" which should prove to be helpful in the event that a wiring problem in the area covered develops.



These wires are imbedded in a multi-wire cable.



VIDEO VENDOR

4233 MAIN STREET  
SKOKIE, IL 60076

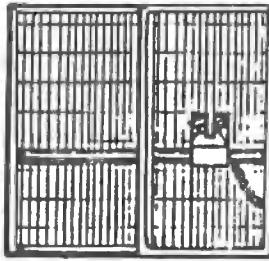
Service Department

## Technical Service Bulletin #15c

Of Interest  General Manager  Sales Manager  Service Manager  Parts Manager  Service Technicians

MAY 6, 1987

SUBJECT: INTERNAL WIRING DIAGRAMS



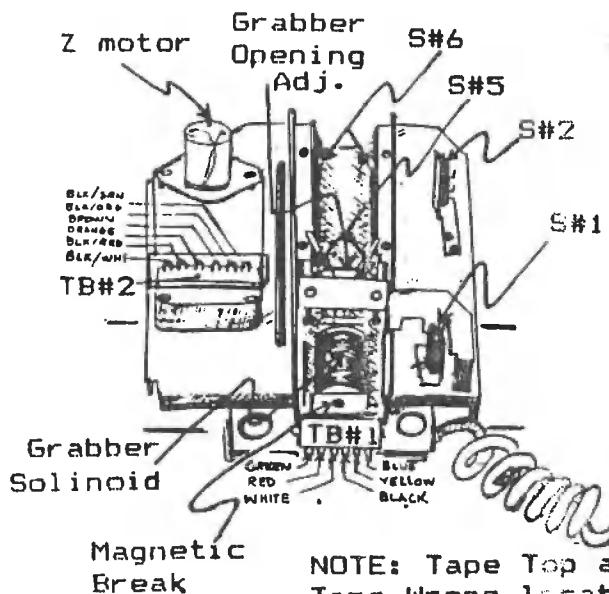
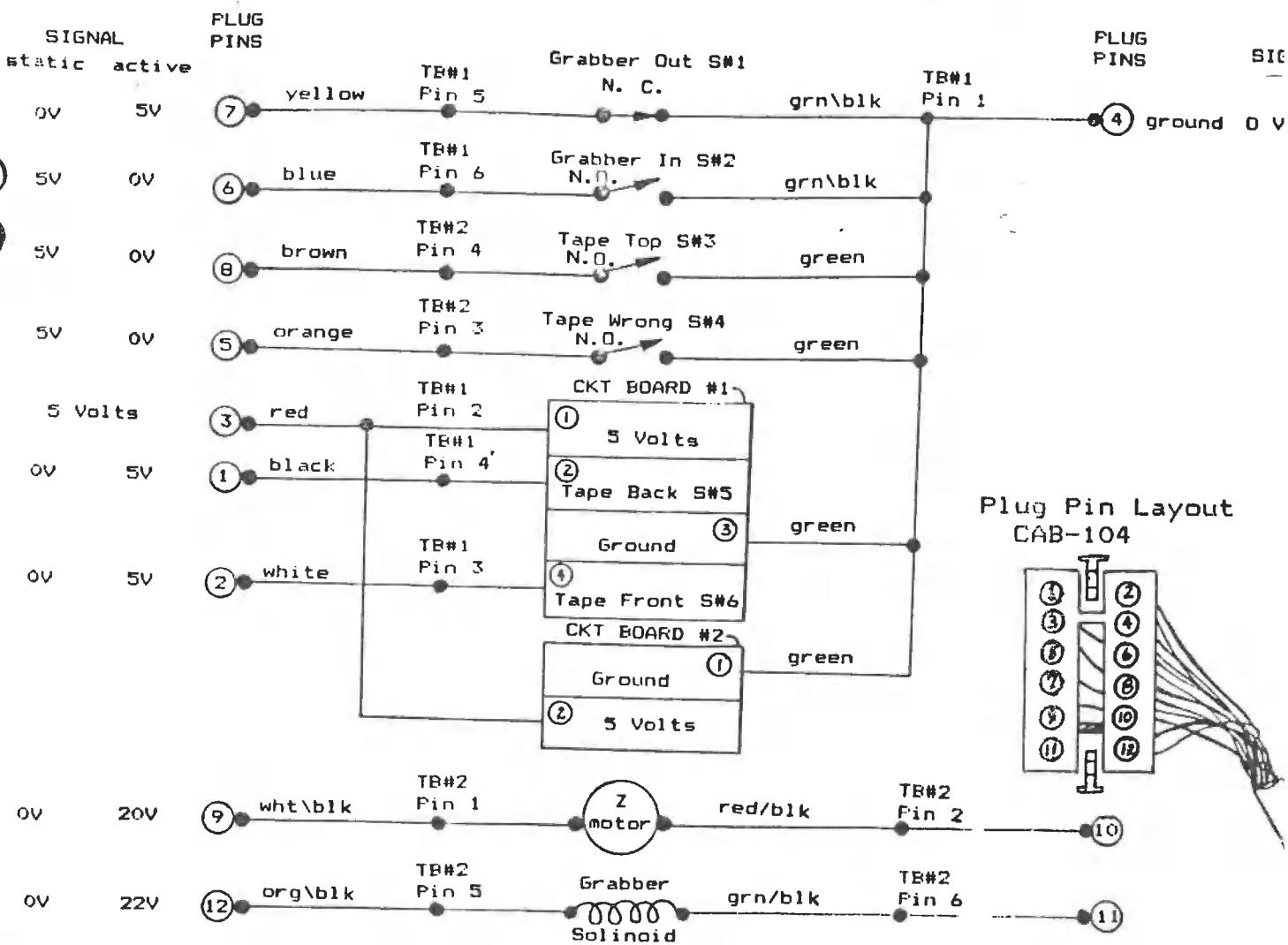
This is one of the continuing series of bulletins which show the internal wiring pathways for each of the following circuits:

Sent: Topic:

- 11/15 A. TAPE ACCESS DOOR SOLENOID OPERATION
- 11/15 B. MOTOR CONTROL JS INTERLOCK
- 11/25 C. HORIZONTAL MOTION "X" MOTOR POWER CONNECTION
- 11/25 D. VERTICAL MOTION "Y" MOTOR POWER CONNECTION
- 4/22 E. AC LINE CIRCUIT
- F. HOME ENCODER
- G. PULSE ENCODER
- H. DOLLAR BILL VALIDATOR
- I. COIN PULSE
- J. KEYPAD
- K. PRINTER
- L. MONITOR
- 5/6 M. RETRIEVER ASSEMBLY

Enclosed is M. "RETRIEVER ASSEMBLY". This diagram represents the layout of the electrical connections for the retriever and its coiled cord. Also included are the voltage readings at each of the pin connections. The static readings are taken without a cassette in the retriever. The active readings are taken when the retriever has retrieved a cassette. This schematic should prove helpful in troubleshooting problems with the retriever and a better understanding of its operation.

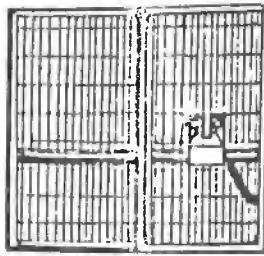
# RETRIEVER ASSEMBLY SCHEMATIC



NOTE: Tape Top and Tape Wrong located in transport cover --not shown here.

# Technical Service Bulletin \*16

Or Manager  General Manager  Sales Manager  Service Manager  Parts Manager  Service Technicians



DECEMBER 18, 1986

SUBJECT: SETTING THE "X" MOTOR AND "Y" MOTOR COUNTS  
ENCLOSURE: PLASTIC ARROW, PART #4A-1037

When considering the subject of setting "X" and "Y" Counts, it is important to keep in mind that the "X" Count need only be set ONCE for the entire machine, whereas, a correct "Y" Count must be set for EACH SHELF and the ACCESS DOOR.

## HOW TO SET THE X COUNT

1. Open the large lexan doors and cheat the interlock switch so the transport will work with the doors open.
2. Enter Selection "15" ADJUST COUNTS. Then enter Location #150 which will send the retriever to slot #150.
3. Remove the retriever cover. Also, remove the bottom service/electronics door exposing the Motor Controller Board (MCB).
4. On the monitor, the Y Count is displayed first. Press -ENTER- to DISPLAY THE X COUNT.
5. Press the black button on the MCB marked "IN" (this will send the grabber toward tape #150), AT THE SAME TIME, Observe the position of the grabber as it surrounds the tape.

IF the tape is CENTERED BETWEEN THE GRABBERS (See FIG. 1a) the X Count is correct. Press -ENTER- to keep Old X Count.

IF the tape is NOT CENTERED between the grabbers (See FIG. 1b), adjust the X Count to reposition the grabber to the RIGHT by subtracting or to the LEFT by adding (in increments of 20) to the "Old X Count" on the monitor and enter the adjusted number as "New X Count". Press -ENTER-.

NOTE: It is important that you READ THE MONITOR very carefully because you are changing the computer programmed locations for the movie slots in your machine. If you make a mistake, the retriever will not be sent to the proper location.

6. Retest after each change until grabber centers on the tape.
7. Reinstall retriever cover unless you will set "Y" Count also.

## HOW TO SET THE Y COUNT

1. Follow steps 1, 2 and 3 for setting the "X" Count.
2. Adjust the position of the tape carriage floor until it is PERFECTLY LEVEL with the shelf by adding or subtracting counts from the "Old Y Count" on the Monitor. Test the levelness by manually sliding a cassette from retriever to shelf and back again. (See FIG. 2)
3. When the retriever carriage floor is perfectly level with the shelf, SUBTRACT 60 from the number now shown for "Old Y Count" and Enter the DECREASED NUMBER as "New Y Count". Now send the retriever back to slot #150.

1. Checking the location, you should be able to slide the tape off the shelf manually. It should fall into the carriage which is now 3/32" BELOW THE SHELF. Therefore, pushing the tape back toward the shelf, it should not be able to be reshelved.

2. Without moving the retriever up or down, right or left, CAREFULLY reinstall the metal, retriever cover.

3. If your retriever cover does not have a plastic arrow, install one as shown in FIG. 3. (Arrow enclosed in this mailing: Part #4A-1037. Order additional arrows @ .50 each.)

4. Take a Test Tape (one you will not use for rental purposes) and place a strip of masking tape along the edge of the cassette as shown in FIG. 4. Insert the Test Tape in the slot just to the left of the retriever cover, so that the arrow points to the masking tape. Draw a horizontal line on the masking tape just opposite the arrow point. (See FIG. 4)

5. This Test Tape and the pointer are now calibrated to indicate the correct Y counts anywhere in this machine. You can send the retriever to any slot location placing the Test Tape three slots to the left of that location and adjust the Y Counts so that the pointer is aligned with the Test Tape's mark.

FIG. 1a

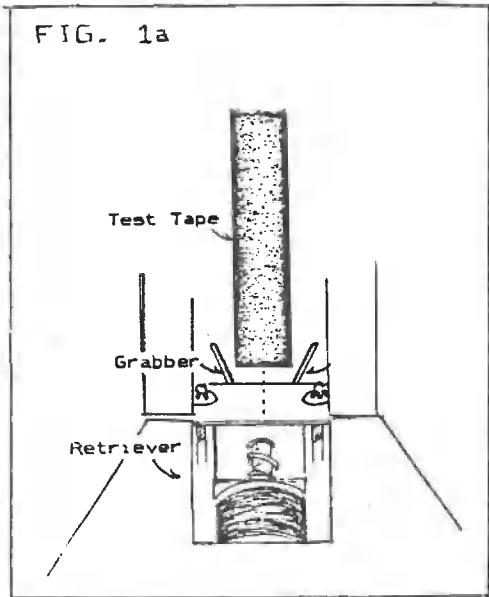
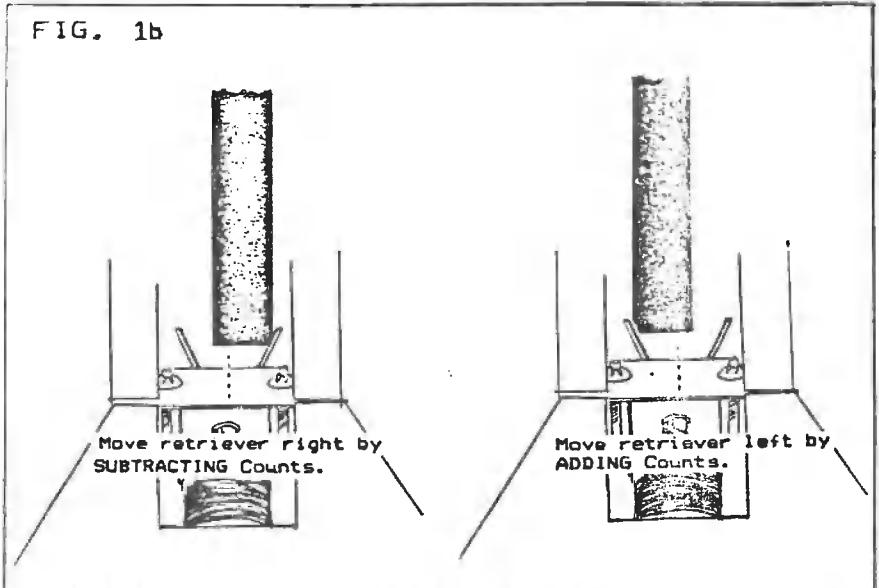
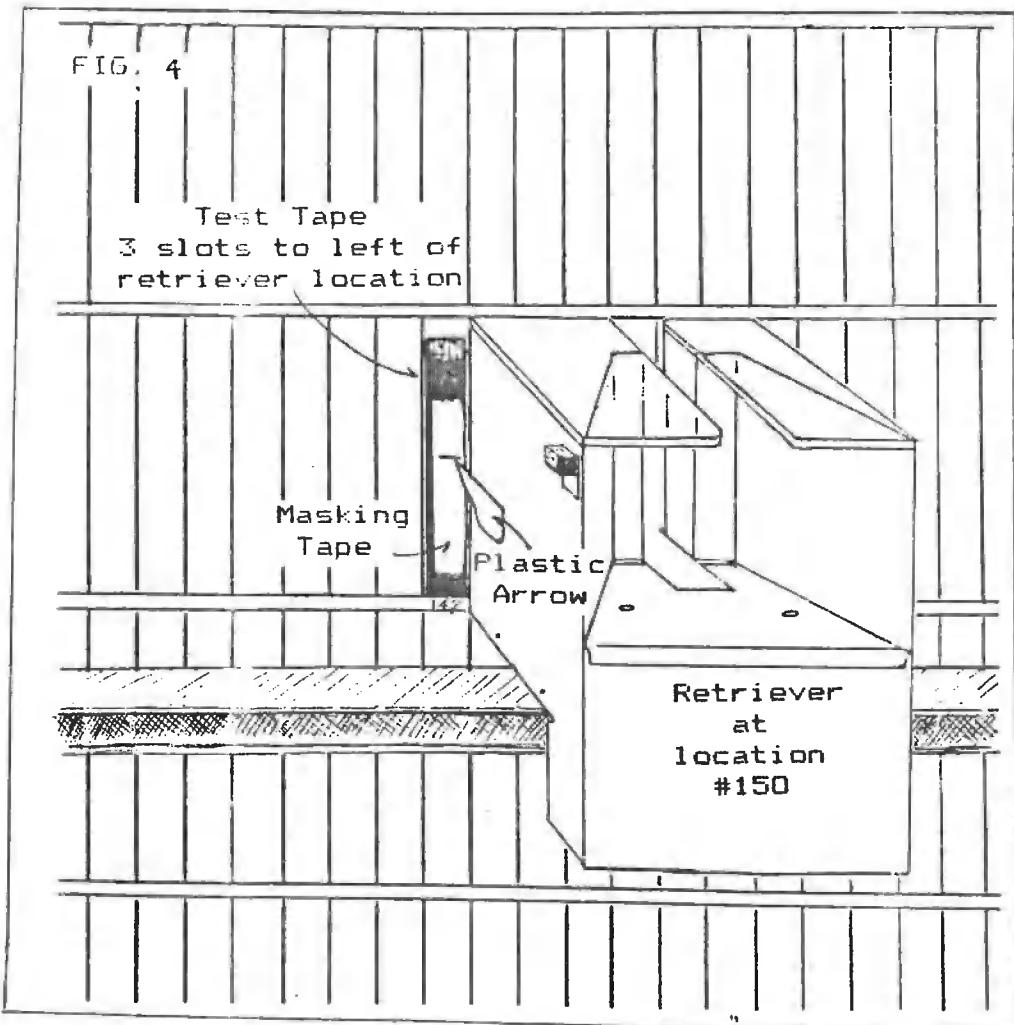
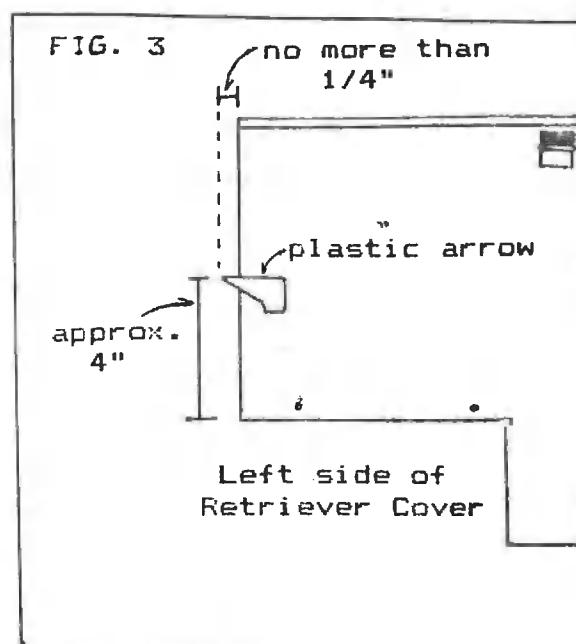
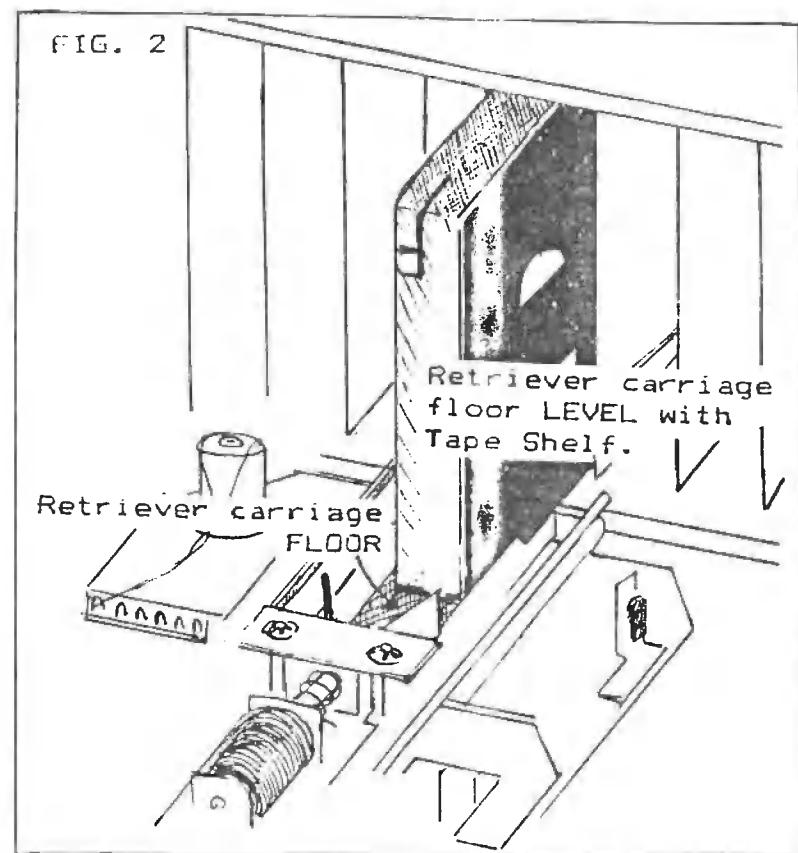


FIG. 1b





## Technical Service Bulletin #17

Of Interest  General Manager  Sales Manager  Service Manager  Parts Manager  Service Technicians

FEBRUARY 9, 1987

SUBJECT: SQUARING AND LEVELING THE HORIZONTAL RAIL

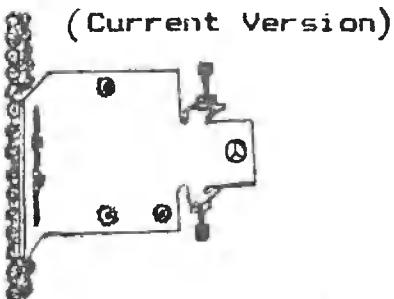
To perform both of these adjustments you will find it necessary to OPEN the side door to the tape storage cabinet and ENTER feature #19 in the service mode.

NOTE: Always check the label reader alignment FIRST, (Bulletin #12), then the squareness of the horizontal rail NEXT, before leveling the rail.

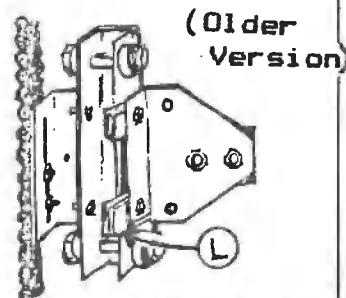
I. The process for SQUARING the horizontal rail depends on the type of support bracket your machine has: (See FIG. 1 )

FIG. 1

A. Cap Screw Adjustable Type



B. Shim Adjustable Type



## A. Adjustment to bracket with Cap Screws:

1. Run the retriever all the way to the left on the center shelf and open the large Lexan doors.
2. Place a test tape into the carriage.
3. Hold a metal yardstick or some similar shaped strip of metal vertically against the front edge of the shelves (see FIG. 2, Refer to FIG. 2 for this entire section.)
4. Push the cassette up against the metal strip. If the cassette:
  - a) is perfectly FLUSH against the metal strip with no gaps at the top or bottom, the rail is square with the shelves.
  - b) top touches the metal, but there is a gap between the metal and the BOTTOM OF THE CASSETTE; Loosen locknut **(N)**, loosen the locknut on **(A)**, loosen the screw **(A)**, loosen the locknut on **(B)** and tighten the screw **(B)** until position of the rail allows no gap between the test tape and the metal yardstick. Snug up screw **(A)** and tighten all locknuts: **(A)**, **(B)** and **(N)**.
  - c) bottom touches the metal, but there is a gap between the metal and the TOP OF THE CASSETTE; Loosen locknut **(N)**, loosen the locknut on **(B)**, loosen the screw **(B)**, loosen the locknut on **(A)** and tighten the screw **(A)** until position of the rail allows no gap between the test tape and the metal yardstick. Snug up screw **(B)** and tighten all locknuts: **(A)**, **(B)** and **(N)**.

5. Repeat this process with the retriever all the way to the right, adjusting the screws on the similar bracket on the right side. (Access via large rear door.)
  
- B. Adjustment to shimmed bracket:
  1. Run the retriever all the way to the left on the center shelf and open the large Lexan doors.
  2. Place a test tape into the carriage.
  3. Hold a metal yardstick or a similarly shaped strip of metal vertically against the front edge of the shelves (see FIG. 2).
  4. Push the cassette up against the metal strip. If the cassette:
    - a) is perfectly FLUSH against the metal strip with no gaps at the top or bottom, the rail is square with the shelves.
    - b) top touches the metal, but there is a GAP between the metal and the BOTTOM of the cassette; REMOVE shims one at a time from lower set (see FIG. 1 detail (L)) and add to the upper set as necessary until the position of the rail allows no gap between the test tape and the metal yardstick. If necessary, make up shims to add if those removed are insufficient.
    - c) bottom touches the metal, but there is a GAP between the metal and the TOP of the cassette; INSERT shims one at a time into the lower set (see FIG. 1 detail (L)) removing them from the upper set as necessary until the position of the rail allows no gap between the test tape and the metal yardstick. If necessary, make up shims to add if those removed are insufficient.
  5. Repeat this process with the retriever all the way to the right, making shim adjustments on the similar bracket on the right side. (Access via large rear door.)

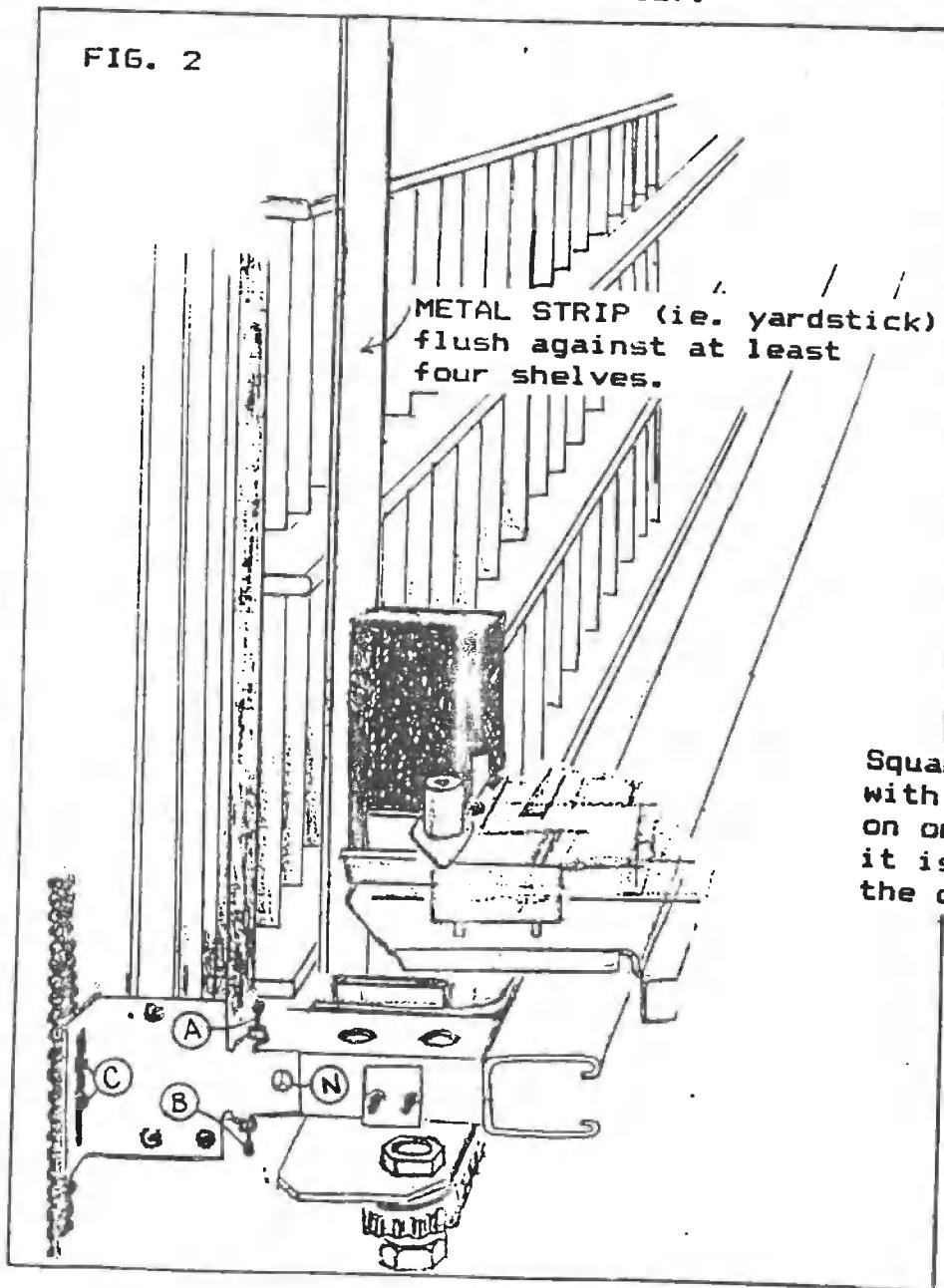
## II. The process for LEVELING the horizontal rail is as follows:

1. Place a test tape with a strip of masking tape applied along its edge into slot #157.
3. Run the retriever to location #160 and position the carriage floor level with the shelf.
4. Using the plastic arrow on the retriever cover (see Service Bulletin #16), carefully mark the spot the arrow points to on the masking tape with a NARROW horizontal line.
5. Remove the test tape and place it into slot #121.
6. Now, run the retriever to the left until the pointer is on the test tape. If the pointer is:
  - a) EXACTLY aligned with the mark on the test tape the horizontal rail is level with the shelves.

- b) pointing ABOVE the mark, adjustment is made while supporting the horizontal rail. Loosen the chain screws (FIG. 2 detail C) gently allowing the rail to lower slightly until the retriever arrow points to the mark on the test tape. Retighten the set screws in this position.
- c) pointing BELOW the mark, adjustment is made while supporting the rail. Loosen the chain screws (FIG. 2 detail C) gently raising the rail until the retriever arrow points to the mark on the test tape. Retighten the set screws in this position.

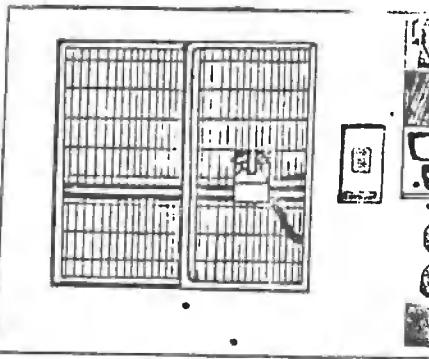
7. Test the machine. If it is functioning properly, close and lock doors and resume rental mode of operation.

NOTE: Whenever it is necessary to make these adjustments to the horizontal rail, the X- and Y-Counts should be rechecked (see Service Bulletin #16).



## Technical Service Bulletin #18

Interested  General Manager  Sales Manager  Service Manager  Parts Manager  Service Technicians



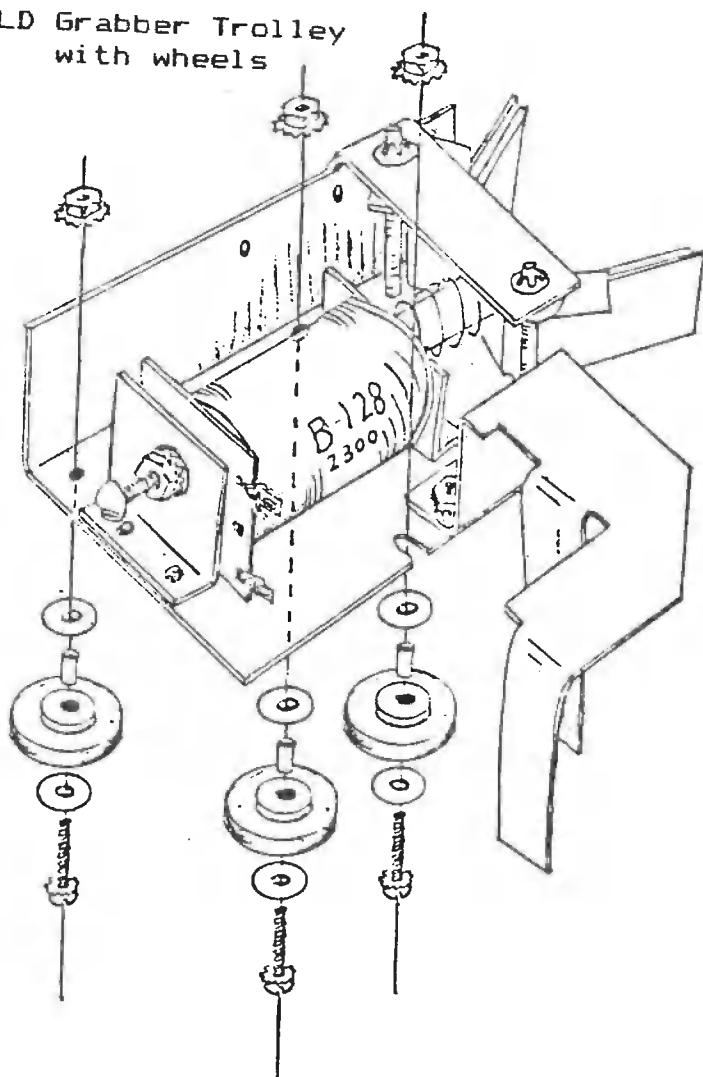
JANUARY 20, 1987

SUBJECT: NEW GRABBER TROLLEY SLIDE GLIDE

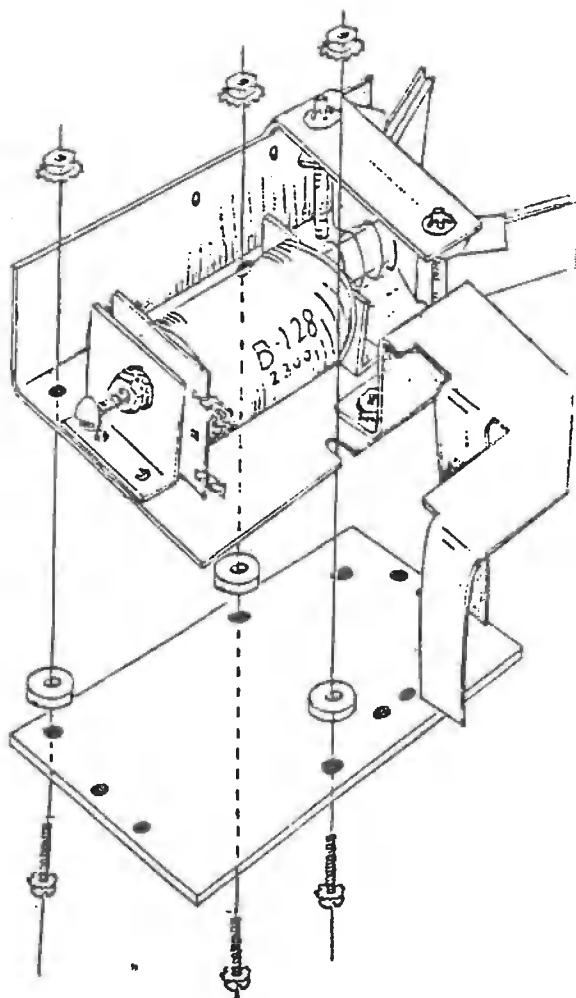
Video Vendor recently redesigned the grabber trolley mechanism. Experience has shown that its wheels needed occasional adjustment and maintenance to insure that the grabber would travel freely and in a straight line when retrieving and returning a cassette.

The new Slide Glide eliminates the wheels and their associated maintenance. It is a direct and easy replacement as illustrated in the self-explanatory diagrams below. The Slide Glide Kit #K1A-2592 is available at \$ 7.00 and includes spacers and glide plate.

OLD Grabber Trolley  
with wheels



NEW Slide Glide



## Technical Service Bulletin #19 revised

CM Integrator — General Manager — Sales Manager — Service Manager — Parts Manager — Service Technicians

MARCH 9, 1988

SUBJECT: DOLLAR BILL O.B.A. UNIT 4-50575-01 ADJUSTMENTS

The following instructions are for the adjustments to be made on your O.B.A. unit ONLY if it is not working (fails to accept \$1 and \$5 bills). **DO NOT** perform these adjustments if your O.B.A. unit is functioning properly.

## I. Motor Speed Adjustment

Open the top service door. Enter Diagnostics, #19. Inside the top service door you will find the O.B. A. Control Unit. (See FIG. 1) fastened to the left side of the Vendor wall. On the bottom right of the O.B.A. unit you will see six Function Switches. Function Switch #6 should be the ONLY one "ON" at this point. Just look at the switches to verify that it is on.

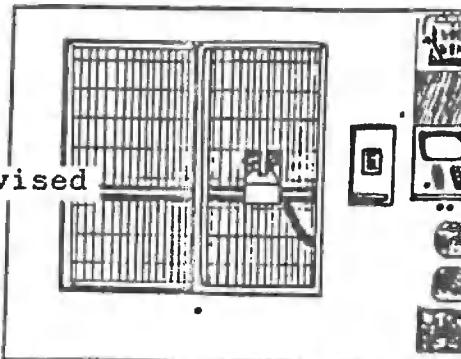
First, depress and hold the <-- arrow key on the Vendor keypad (called "MONEY" in Diagnostics). While you are holding the "MONEY" key down, depress and hold the TEST pushbutton on the O.B.A. unit. You can now release the "MONEY" key. The \$ Bill motor will start to run and continue to run as long as the TEST button is held depressed. The Fault light goes OFF if the motor speed is within the acceptable range of adjustment.

To adjust the Motor Speed, turn the MOTOR SPEED ADJUSTMENT SCREW clockwise (while still holding the TEST button down) until the Fault light comes ON. Then turn it clockwise until the Fault light goes OFF and comes ON again. The correct setting for the Motor Speed adjustment is midway between these positions.

If your OBA still has trouble accepting one dollar bills, we have found that a slight increase in motor speed (clockwise direction) over the correct setting, clears up that problem.

## II. Magnetic Gain Adjustment

Open the top service door. Enter Diagnostics, #19. Inside the top service door you will find the O.B.A. Control Unit fastened to the left side of the Vendor wall. On the bottom right of the OBA unit you will see six Function Switches. Function Switch #6 should be the only one ON at this point. Turn Switch #6 OFF so that ALL switches will now be in the OFF position.



First, depress and hold the <-- arrow key on the Vendor keypad (called "MONEY" in Diagnostics). While you are holding the "MONEY" key down, depress and hold the TEST pushbutton on the O.B.A. unit. You can now release the "MONEY" key. The \$ Bill motor will start to run and continue to run as long as the TEST button is held depressed. At this point, turn the MAG. GAIN adjustment screw counterclockwise to the maximum position. If the Fault light comes on, the control should be backed off 1/8 turn. Release the TEST pushbutton and put Function Switch #6 back in the ON position.

### III. Cleaning

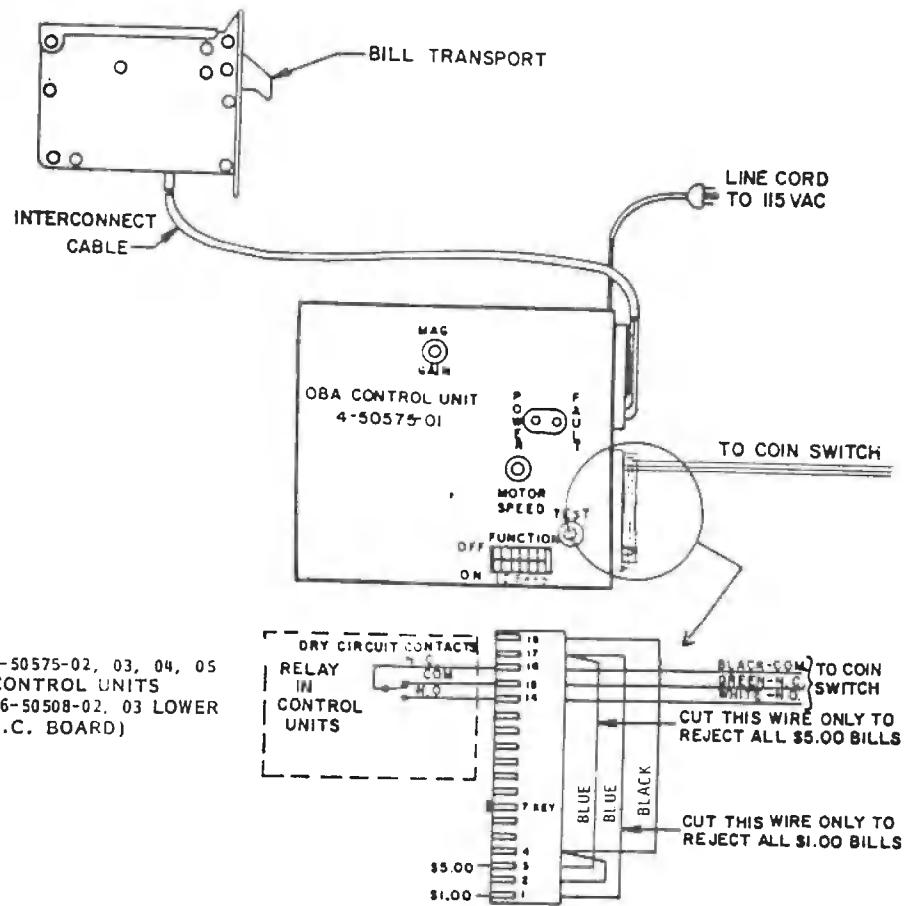
The \$ Bill Acceptor does not require routine cleaning, however, the input and track surface could be wiped with a clean cloth periodically. Due to the abrasive nature of currency, the magnetic head does not normally require cleaning. If the head does become dirty, use a clean cotton swab saturated with denatured alcohol or other suitable cleaning solution. Never soak the belts in any cleaning solvents. You can also use compressed air to blow out any dust if your unit operates in an extremely dusty environment.

### IV. Lubrication

The \$ Bill Acceptor does not require lubrication under normal use. If the belts turn hard or squeek, apply one drop of light machine oil (such as 3:1 Electric Motor Oil or equivalent) to the gear shaft, each nyliner bearing and each roller for the upper and lower belts and drive belt. The rollers for the lower belts and drive belt can be reached with a needle oiler.

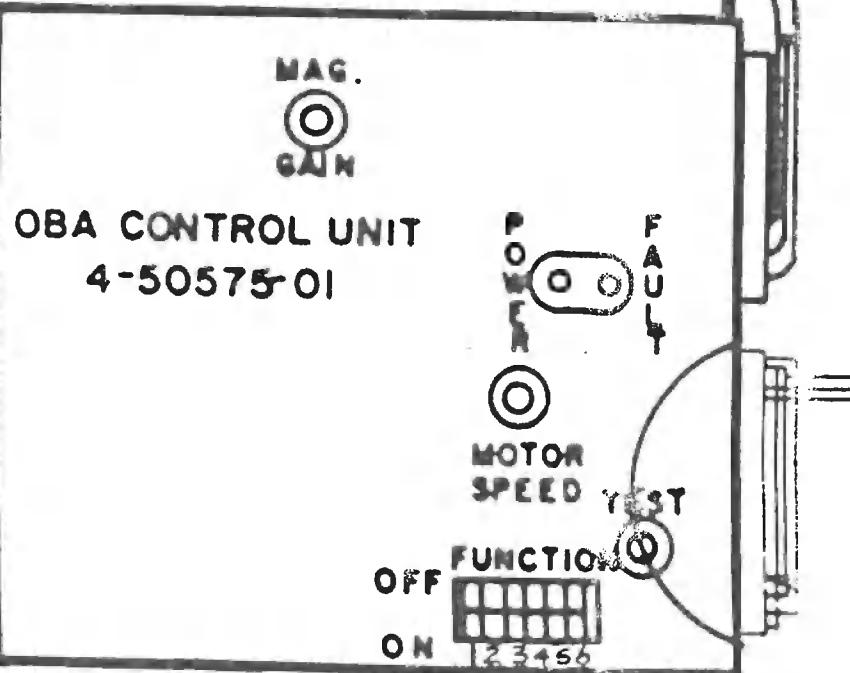
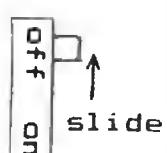
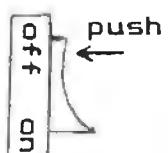
**Do not overlubricate.**

FIGURE 1



SIDE VIEW  
OF SWITCHES  
OFF Position

Rocker Type      Slide Type

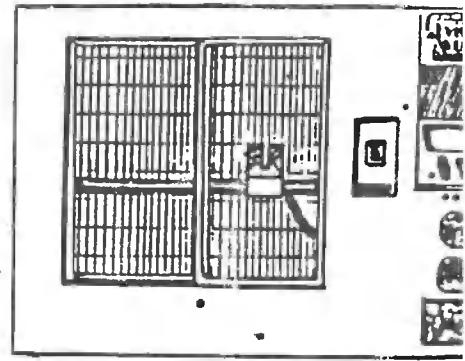


## Technical Service Bulletin #20

Interested  General Manager  Sales Manager  Service Manager  Parts Manager  Service Technicians

MAY 21, 1987

SUBJECT: UNSTUCK TITLE LABELS



We have noticed that the Title Labels on the spines of cassettes can begin to peel up (See FIG. 1) and can cause retriever "Error 99" problems.

It usually occurs while the retriever is returning a tape. As the grabbers slide the tape back on the shelf, the exposed sticky area on the upturned Title Label or on the cassette sticks to the grabber (See FIG. 2). When the grabber retracts, the cassette is pulled partially back into the retriever. If the cassette blocks the Tape, Front and Tape Top sensors, the computer interprets as a tape jammed in the transport. You get an "Error 99" indicating either Tape Front or Tape Top as the problem. If the tape is pulled out, but not far enough to block the sensors, the retriever in motion may hit the protruding cassette and cause a jammed condition. The result of the jam could be a tape jammed sideways between the retriever and the tape cabinet or you may find a tape on the floor of the wooden cabinet with no explanation for why it's there.

The corrective action is to inspect your tape inventory and replace all stickers or Title Labels that appear loose before they become a problem.

FIG. 1

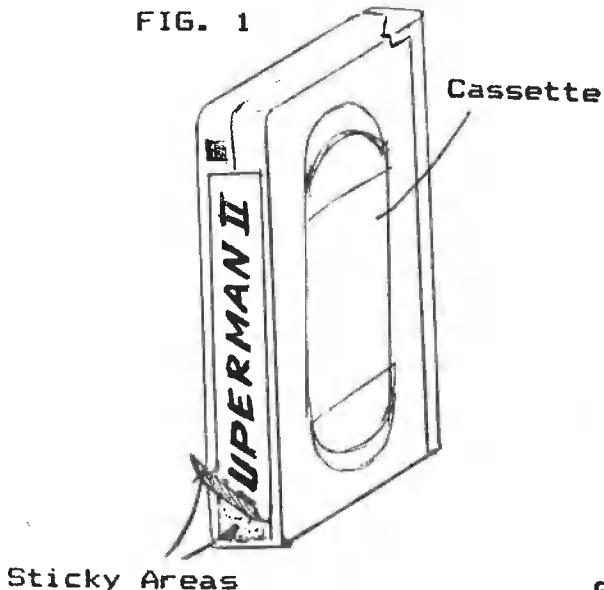
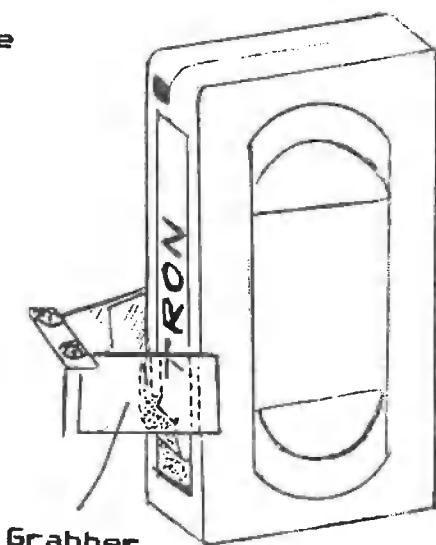


FIG. 2



## Technical Service Bulletin #21

Inventory  General Manager  Sales Manager  Service Manager  Parts Manager  Service Technicians  Service Technicians

JUNE 11, 1987

**SUBJECT: SETTING THE "GRABBER IN" AND "GRABBER OUT" STOPPER SWITCHES AND CASSETTE POSITIONING ON SHELVES**

The "Grabber In" (FIG. 3) and "Grabber Out" (FIG. 4) switches have two specific functions. The first is to send electrical signals to the MPB (Main Processor Board) indicating that the grabber mechanism has reached either of its outer limits. Second, they physically stop the movement of the grabber in and out at its outer limits.

The grabber switches are preset at the factory to allow the cassette tapes to overhang the shelf somewhere between 1/16" and 1/8". This is done to accommodate "sales cassettes" in their packaging which is about 1/8" longer than a cassette without the packaging. The Rental movie cassettes SHOULD NOT touch the back wall of the tape compartment. Because the tape shelves are in a wooden cabinet they cannot be perfectly square with the horizontal beam. Although it is normal for the tapes to overhang the shelf between 1/16" to 1/8", you must rent and return a tape from each shelf to determine the amount of overhang for that shelf. The returned tape will be placed in the proper position which should be used as a guide for tapes placed on that shelf by hand.

The following symptoms indicate grabber switches out of adjustment:

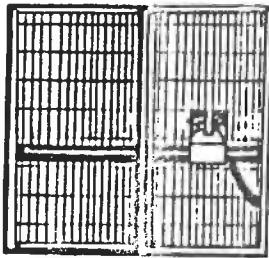
1. While renting a tape, the grabber moves in to pull the tape off the shelf but the grabber contacts the tape before it contacts the forward black micro-stop-switch, the cassette will not be pulled out to be vended. The customer will then get this message on the monitor:

I CAN'T FIND THAT TAPE  
PLEASE WAIT AND TRY AGAIN.

2. While renting, the grabber pulls the cassette off the shelf. In one case it pushes the cassette back onto the shelf again, (instead of bringing it to the access door to vend). The customer will then get the same message as in #1 above. In another case, the grabber tries to reshelf the cassette but because the transport is lower than the shelf, it cannot be put back. Instead, the cassette will be repositioned which will correct the error indication. In this case, the tape will be brought to the access door for vending.

In either case, the problem resulted because the rear stop switch (Grabber Out) was contacted before the "Tape Back" electric eye beam could "see" the cassette and the Vendor did not get an indication that the cassette was brought far enough out into the retriever. This condition can be caused by a tape being pushed too far back by a service person or by a misadjusted "Grabber Out" switch.

3. A sticky title identifier label can cause problems which exhibit a misadjusted grabber switch (See Service Bulletin #20).



If your machine exhibits any of these problems you should check the "Grabber In" and "Grabber Out" adjustments as follows:

The "Grabber In" switch can only be adjusted properly in only ONE place in the machine. That is the shelf location where the horizontal beam is at the closest distance to a shelf (See FIG. 1). You will have to move the bar in front of all eight shelves and measure each to find the location where the bar is closest to a shelf. Once you have found the closest point, that will be the location where you will adjust the "grabber in" micro-switch.

The grabber "In" and "Out" switches are located inside the Retriever's stainless steel, box shaped housing. To uncover the grabber switches, you must first move the retriever to a convenient location in the machine. To do this, open the top service door and enter Feature #19, Diagnostics. Run the retriever up to location #150. Open the Lexan doors. Remove the four screws from the sides of the retriever cover (two on each side). Turn OFF the AC power. Carefully, lift off the cover and note how the wires are tucked under the Z Motor housing. Unplug (by pulling apart) the white connector on the wires between the retriever and its cover. You can now completely separate the retriever cover from the retriever mechanism which will expose the grabber "In" and "Out" switches. See FIG. 3 & 4.

You must now move the retriever to the location which was found to have the closest distance between the horizontal bar and the shelf. Cheat the Lexan door interlock switch so you can operate the machine with the doors open. Turn ON the AC power and re-enter Feature #19. Move to the location where the adjustment will be made. Move the grabber forward and back (in and out) using the #7 and #9 buttons on the keypad. You will notice that the grabber stops whenever its "legs" contact either black "stopper" microswitch.

Run the grabber in toward the shelf. It should be stopped by the "Grabber In" microswitch about 1/16" before the grabber appendage hits the shelf. If it stops too soon or if it hits the shelf, adjust the "Grabber In" microswitch. To do this, loosen the two screws (See FIG. 3) holding the switch bracket and move the bracket to the proper position to achieve the 1/16" gap. See FIG. 2. Tighten the screws and retest the grabber action.

The "Grabber Out" switch can be adjusted anywhere in the machine so pick a convenient location. Check the "Grabber Out" switch by pulling it all the way back. Put a tape in the retriever and slide it forward. You want the tape to move forward at least 1/8" or more before exposing the Tape Back electric photo cell as observed on the screen in Feature #19. If you do not have at least 1/8", unscrew the two lock nuts on the "Grabber Out" switch bracket and slide the bracket and switch slightly to the rear (away from the shelf). See FIG. 4. Tighten the screws and retest the grabber action. Close up the machine and test rentals from all corners of each shelf.

FIG. 1

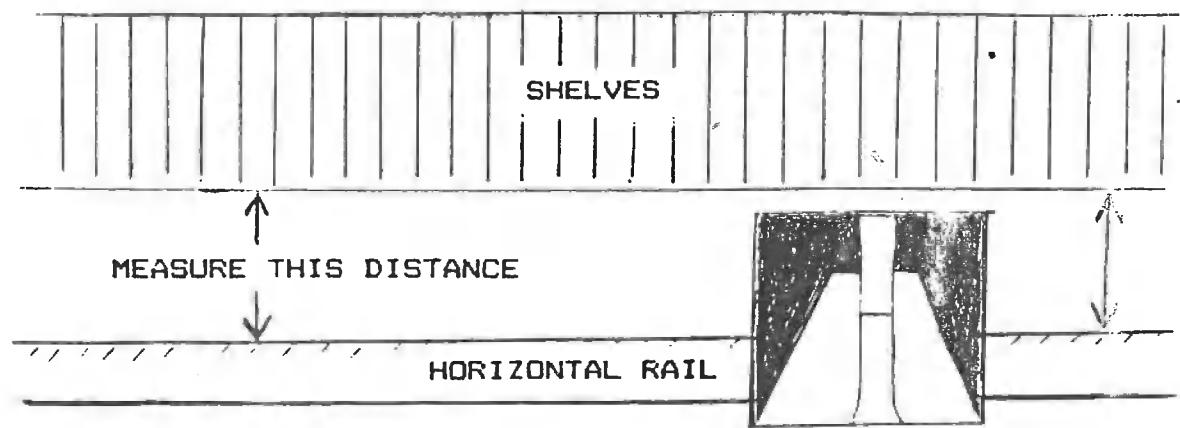


FIG. 2

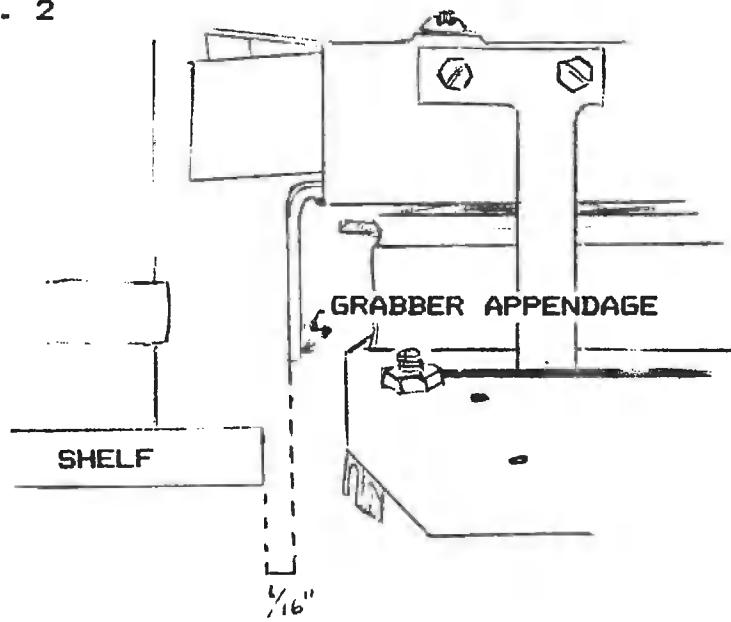


FIG. 3

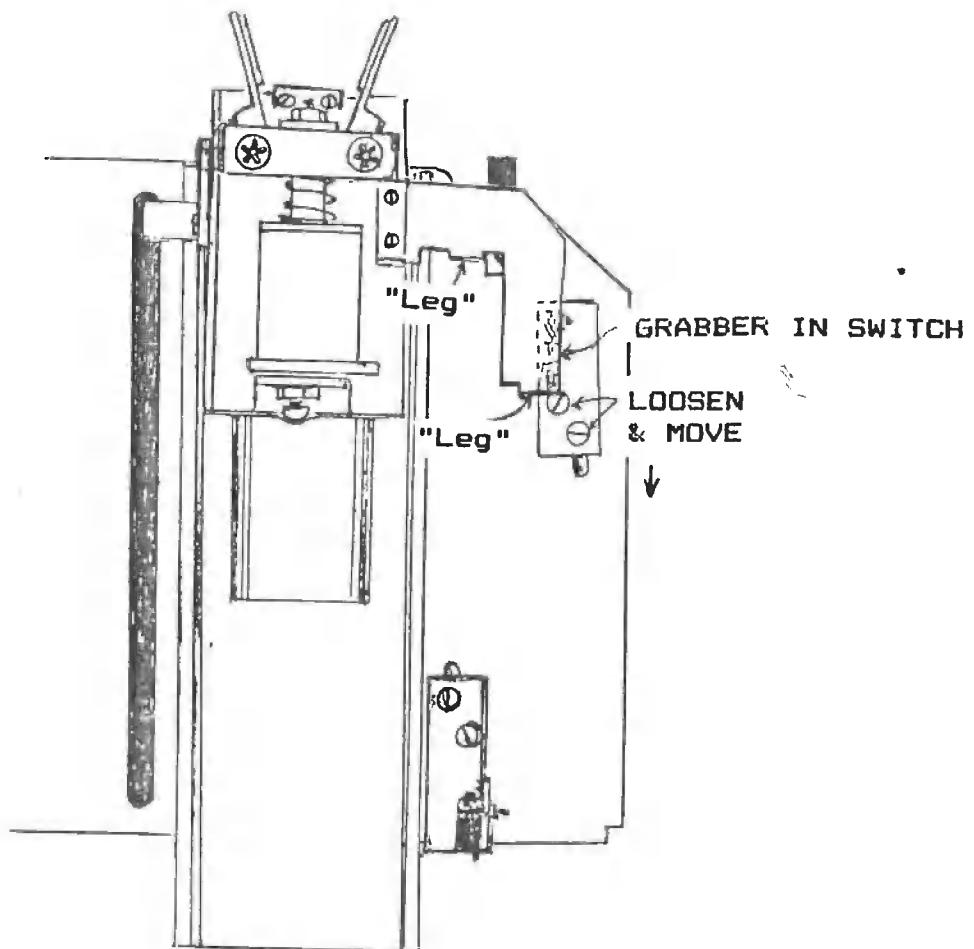
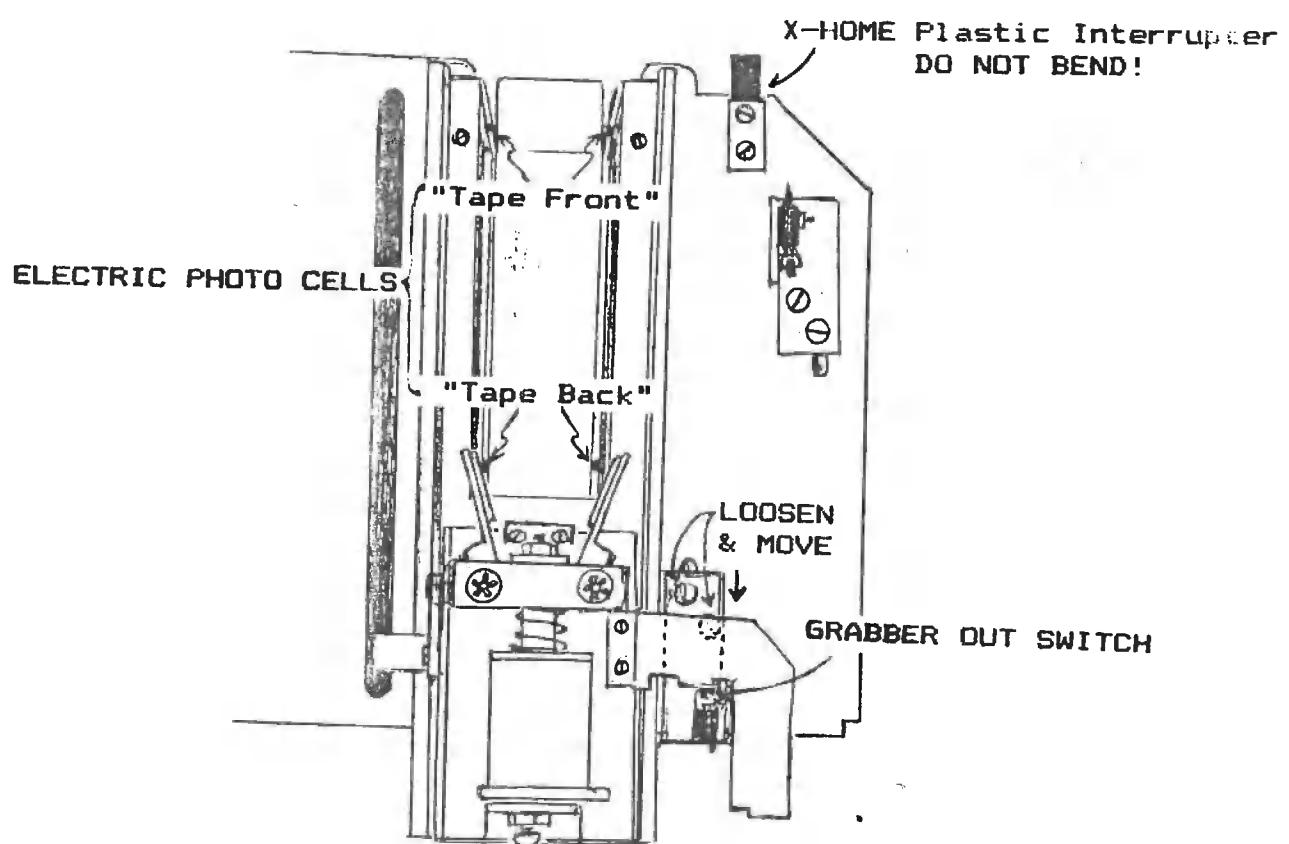


FIG. 4



## Technical Service Bulletin #22

Of Interest  General Manager  Sales Manager  Service Manager  Parts Manager  Service Technicians

JUNE 26, 1987

### SUBJECT: THE GREEN LIGHT AND ACCESS DOOR OPERATION

The Green Light is a visual indicator which lights when the cassette access door is to be opened by a customer on either rental or return of a video cassette. The light is located on the front of the Vendor just to the right of the access door (See DIAGRAM in Heading).

This bulletin describes the conditions that may cause the failure of the Green Light to light. For more information on testing (2) d, e & f see Service Bulletin #13a: Testing the MCB.

(1) IF the Vendor works normally but the green light does not light when renting or returning a cassette and the customer CAN open the access door.

#### CAUSE

The light is burned out.

#### CORRECTION

Replace the light.

(2) IF the Vendor appears to be working at first but the green light does not come on and the customer CANNOT open the access door.

#### CAUSE

a) The magnet on the side of the retriever does not align with the reed switch.

#### CORRECTION

Adjust the "Y Count" for the access door (999) up or down until the magnet is aligned with the reed switch (See FIG. 1).

b) The magnet fell off of the retriever.

Reattach magnet to the side of the retriever.

c) The magnet is aligned but the reed switch is burned out.

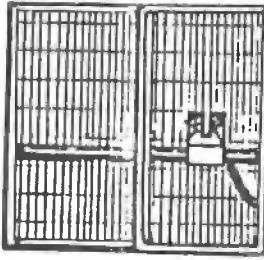
Short the 2 wires on the reed switch together eliminating the switch from the circuit. If the machine works properly replace the reed switch.

d) Jumpers were left in the J5 interlock (Pins 1 & 2) of the Motor Control board. (MCB)

Remove the jumper and replace the J5 plug.

e) The output from Pin 6 of the J3 connector on the MCB does not go to ground.

Check the output of J3 Pin 6 to see if it goes to ground potential when the access door is activated with the "door" button on the MCB. If it does not, replace the Motor Control board.



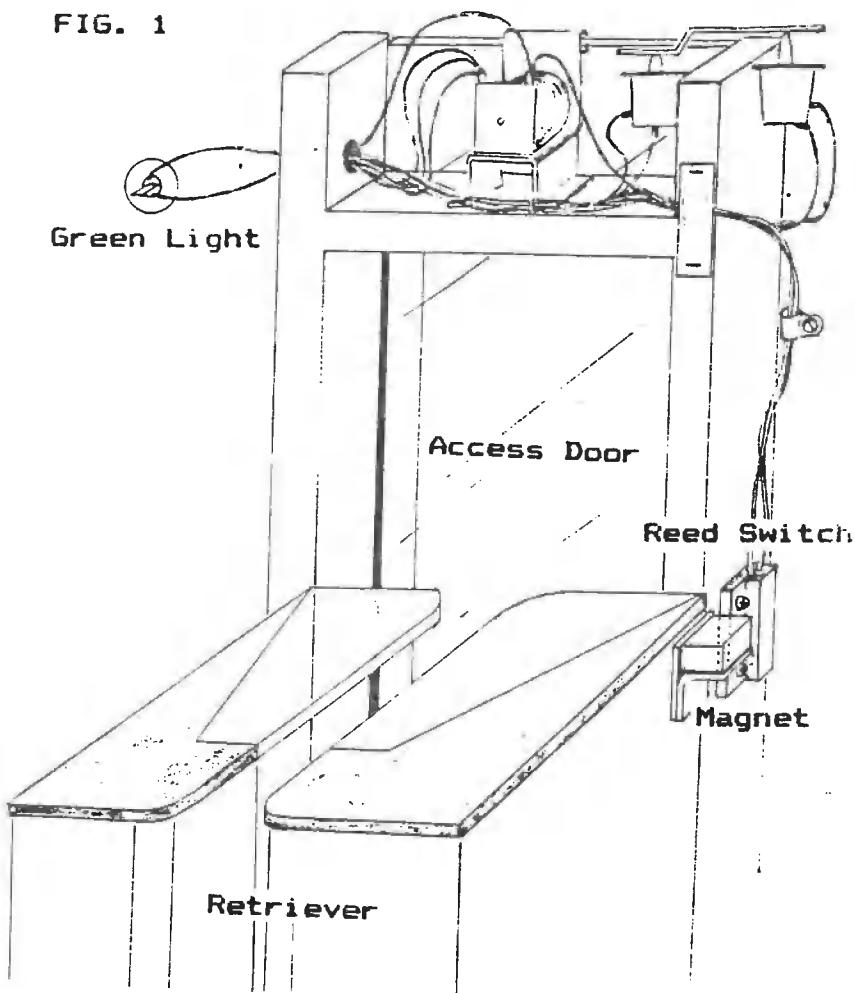
**CAUSE**

f) The output from Pin 1 of the J3 connector on the Micro Processor Board (MPB) does not go to ground when key #1 on the keypad is pressed while in Diagnostics, Feature 19.

**CORRECTION**

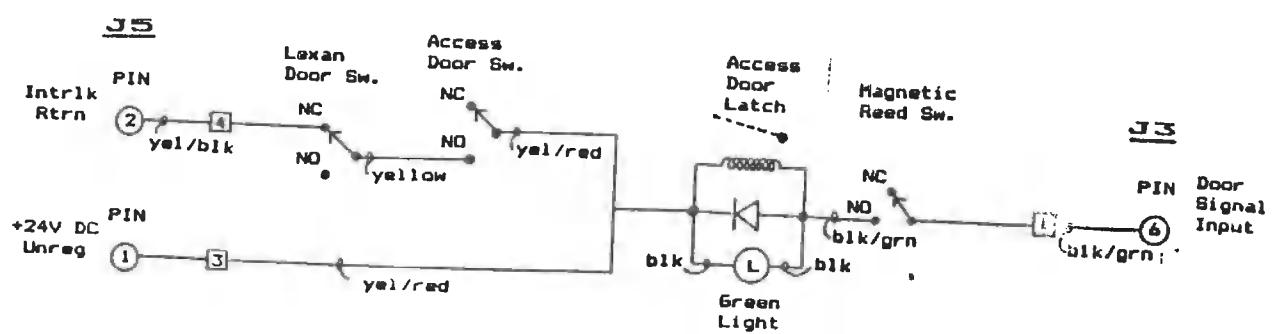
Check the output of J3 Pin 1 of the MPB to see if it goes to ground potential when key #1 on the keypad is pressed while in Diagnostics, Feature 19. If it does not go to ground, replace the MPB.

FIG. 1



MOTOR CONTROL J5 INTERLOCK

TAPE ACCESS DOOR SOLINOID OPERATION



## Technical Service Bulletin #23

Of Interest  General Manager  Sales Manager  Service Manager  Parts Manager  Service Technicians 

JULY 13, 1987

## SUBJECT: ADJUSTING THE SENSITIVITY OF THE TAPE WRONG SWITCH

The Tape Wrong switch is located under the triangular shaped, metal plate inside the retriever mechanism (See FIG. 1, detail a). It is used to detect the insertion of two tapes simultaneously or a tape incorrectly placed in the retriever. It operates similar to a weight scale in that anything placed on it weighing more than 2 1/2 oz. sets it to a YES condition as observed on the monitor in Feature 19, Diagnostics.

This bulletin describes the conditions when:

- I. The Tape Wrong switch incorrectly indicates a "Tape Wrong" condition, and
- II. The Tape Wrong switch fails to detect a tape.

I. CONDITION: Tape Wrong= YES when no tape is present.

A customer rents a tape, the retriever gets the cassette, it is validated and the customer removes the cassette from the machine. As the customer closes the door the beeper sounds continuously and the following message appears on the monitor screen although no tape is in the retriever.

THIS TAPE IS IN WRONG!

FOLLOW DIAGRAM ABOVE DOOR.

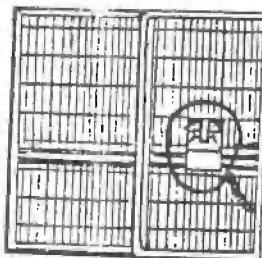
PLEASE REMOVE IT, AND TRY AGAIN.

To correct this condition, turn power OFF, open service door, power ON, enter Feature 19: Diagnostics. Check sensor switches for error. If Tape Wrong= YES with no tape in the retriever, one or more of the sensors on the membrane switch may be too sensitive.

To check and if necessary, correct the sensitivity of the actuation pads on the membrane switch, perform the following:

1. While still in Diagnostics, move retriever to a workable position using the keypad keys.
2. Open the Lexan doors and remove the four screws (two on each side) of the retriever cover (See FIG. 1, detail b).
3. Lift off the cover to remove the two nuts from beneath (See FIG. 1, detail c) taking care to disturb wiring as little as possible. Beneath the triangular metal plate is the membrane switch (FIG. 3) - Note positions of sensing areas. Testing, however, is done with the metal plate ON. Do not remove it yet.
4. A 2 oz. weight approx. 3 in. long (a 2 in. block of common pine 2"x4" for example) will be needed to perform the following:
  - a) To test switch #1 (Refer to FIG. 2 for testing positions) place the 2 oz. block along positions A, B, & F while watching the Tape Wrong indicator in Diagnostics. If YES appears for all positions, the Actuation pad for switch 1 may need to be moved off center (to desensitize it).
  - b) Before moving, test the other switches that indicated YES to determine if the other switches are too sensitive.
  - c) To test switch: place block along positions:
 

#2	B, C & F
#3	A, D & F
#4	C, D & E



The Tape Wrong switch is determined to be too sensitive when any combination of lettered test positions signal YES.

To desensitize a sensor, you must expose the membrane switch.

1. Lift out the triangular, metal plate leaving the loose shoulder bolts in place in it.
2. Gently peel up the actuation pad (See FIG. 3) from the sensing area(s) determined to be too sensitive and move it slightly off center. The more CENTERED an actuation pad is on its sensing area, and the SMALLER the diameter of the pad, the more SENSITIVE is that switch. Using a larger diameter Actuation pad will also desensitize the switch.
3. After making the necessary Actuation pad adjustments, replace the metal plate and shoulder bolts (do not tighten with nuts).
4. Move the 2oz. weight along all the lettered positions shown in FIG. 2 while checking that Tape Wrong= NO in Diagnostics. Continue to make slight adjustments to oversensitive switches until Tape Wrong= NO with weight at all lettered positions.
5. To test the Tape Wrong indicator use the lightest cassette -usually a short childrens' tape. Place the tape on the metal plate (See FIG. 4) vertically, leaning to the left and leaning to the right, check the Tape Wrong indicator in Diagnostics. Tape Wrong should read YES if switches are correctly adjusted.
6. When indicators read correctly, replace nuts under shoulder bolts and secure retriever cover with its four screws.

II. CONDITION: Tape Wrong= NO with two tapes present on retriever or one tape in retriever wrong.

A customer inserts two tapes in the retriever and the machine does not detect the error. To correct this situation, follow the steps described above except the remedy is to make the switch MORE sensitive. Therefore, you would move an Actuation pad closer to the center of its sensing area or use a smaller diameter Actuation pads to make the switch more sensitive.

FIG. 1

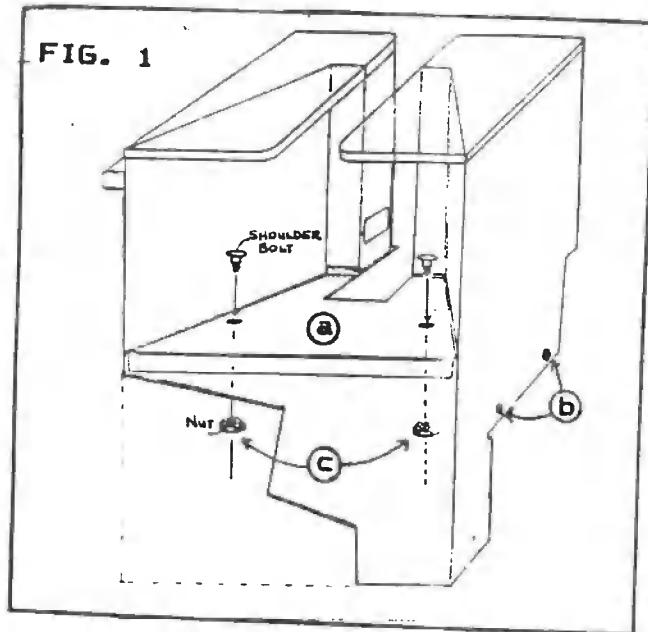


FIG. 2

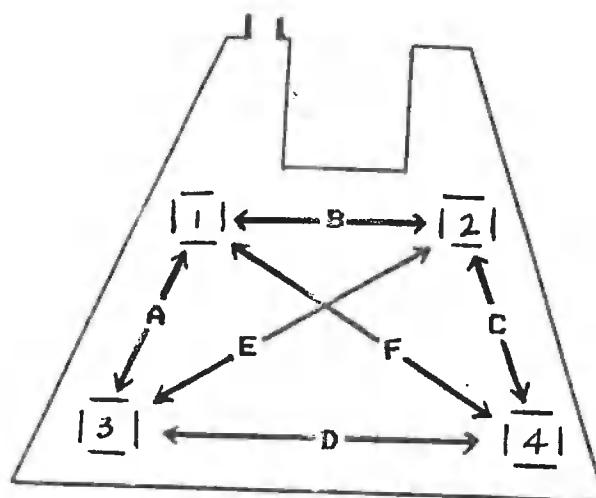


FIG. 3

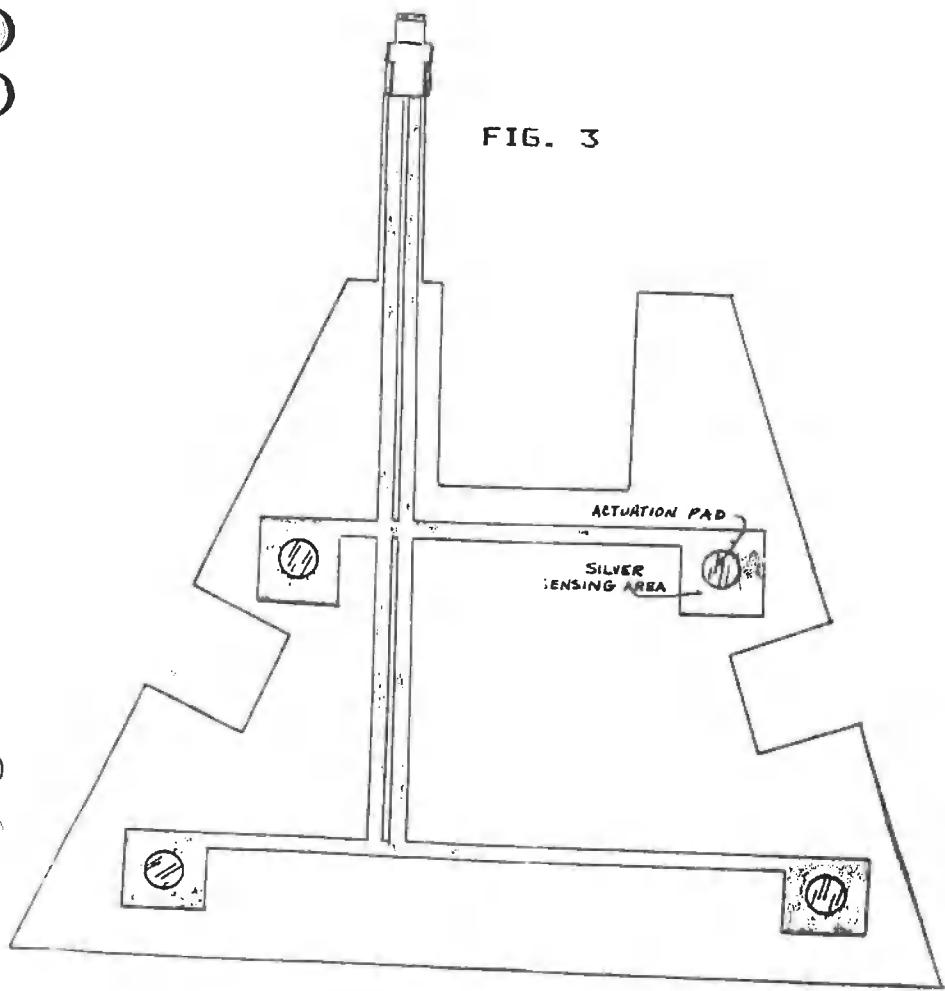
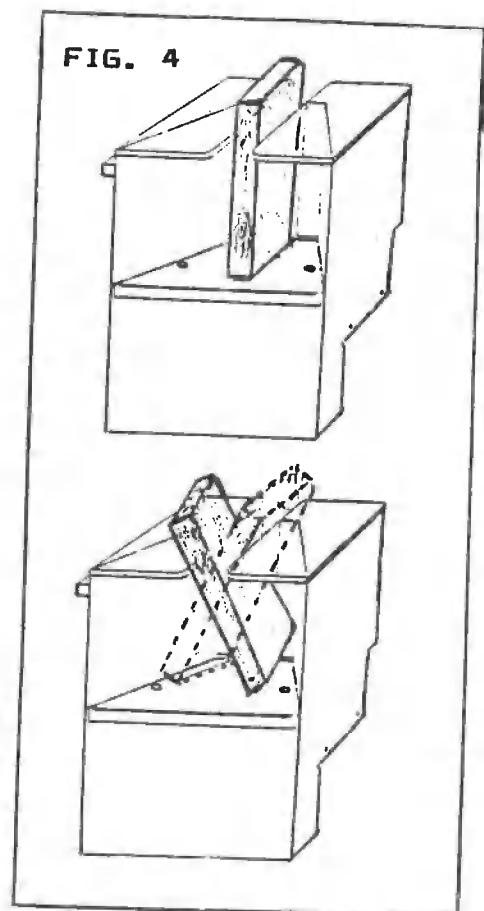


FIG. 4



**VIDEO VENDOR**MAIN STREET  
KIE, IL 60070

Service Department

1-800-555-1212

Of interest  General Manager  Sales Manager  Service Manager  Parts Manager  Service Technicians

AUGUST 17, 1987

**SUBJECT: PREVENTIVE MAINTENANCE CHECKLIST**

This bulletin will provide you with a preventive maintenance checklist for a periodic (monthly) systems check of your Video Vendor. The following checklist is the one used by our service department and we trust it will be helpful to you.

VIDEO VENDOR      DATE      /      /      PREVENTIVE MAINTENANCE

LOCATION      SERIAL #

1. Check SLIDING GLASS DOORS to insure that they lock properly and slide easily. Check the INTERLOCK SWITCH to make sure that mechanism won't move when door is open.	1 <input type="checkbox"/>
2. Switch power ON. Check MONITOR adjustment.	2 <input type="checkbox"/>
3. Check FLUORESCENT LIGHTS.	3 <input type="checkbox"/>
4. Make sure that both SERVICE DOOR SWITCHES work checking ONE DOOR AT A TIME.	4 <input type="checkbox"/>
5. Check ALL KEYBOARD switches.	5 <input type="checkbox"/>
6. Check that that LABEL READER HOLES line up with the encoder cover. Make sure that the MECHANISM is lined up with the center of the access door bracket. Check Service Bulletin #12 for details.	6 <input type="checkbox"/>
7. CLEAN and MAINTAIN the horizontal and vertical RAILS according to Bulletin #1 or #1 revised.	7 <input type="checkbox"/>
8. Check TRANSPORT COILED CORD for proper dress to prevent hooking on cross rail. See Bulletin #9.	8 <input type="checkbox"/>
9. Check TAPE TOP, FRONT, BACK and WRONG sensors.	9 <input type="checkbox"/>
10. Check the GRABBER action and BODY SENSOR action. CLEAN GRABBER PADS using acetone (nail polish remover).	10 <input type="checkbox"/>
11. Run TRANSPORT to Position 81 and confirm SQUARENESS of transport platform to cassette compartment frame. See Bulletin #17 for details.	11 <input type="checkbox"/>
12. Check paper feed LEVER.	12 <input type="checkbox"/>
13. Make sure HOME SHUTTERS and X & Y COUNTER ENCODERS pass through middle of interrupter module. See that MENUS change quickly. See Bulletin #7	13 <input type="checkbox"/>

14. Using CREDIT, Rent tapes in CENTER and ALL FOUR CORNERS of machine. Test both BETA and VHS tapes. Listen for any UNUSUAL NOISE. Check Money Feeder using \$1 & \$5 bills. 14

15. See that GREEN LAMP lights when access door opened. . 15  Check MAGNET ALIGNMENT at Reed Switch.

16. Check ACCESS DOOR for proper locking and tamper proofing. 16

17. Visual check for ANY LOOSE screws, nuts or wires. 17  Check STOPS on horizontal rail.

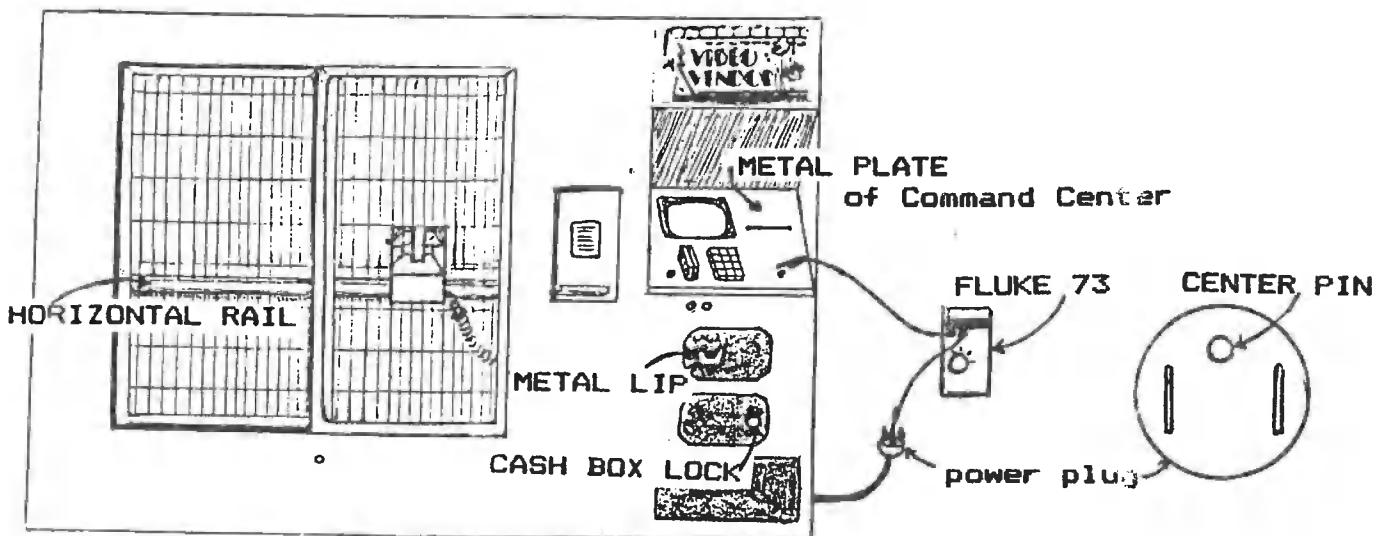
18. Make sure WOODEN DOORS close snugly and easily. 18

Once on new installation and twice a year thereafter the electrical GROUNDING of the machine should be checked.

Check WALL OUTLET for proper ground, hot and neutral. Use a ground fault detector available at most hardware stores for about \$6.00.

To check the machine grounding, you can use any quality multimeter. We use the FLUKE 73 Multimeter. Switch Video Vendor power OFF and remove the power plug from the wall. Set meter to OHMS. With one lead on the CENTER PIN of the cord's power plug, and the other lead touched to the METAL PLATE of Command Center and then to the CASH BOX LOCK, the meter should read 470 K Ohms (0.47 million Ohms) at each.

Keeping one lead on the center pin, touch the other lead to the COIN DOOR, METAL LIP of the bill acceptor and HORIZONTAL RAIL and the meter should read approx. zero Ohms, or in other words, full continuity to ground connection. Move the lead from the center pin to one of the flat prongs of the power plug and the readings taken from the COIN DOOR, METAL LIP and RAIL should be 1 million Ohms minimum.



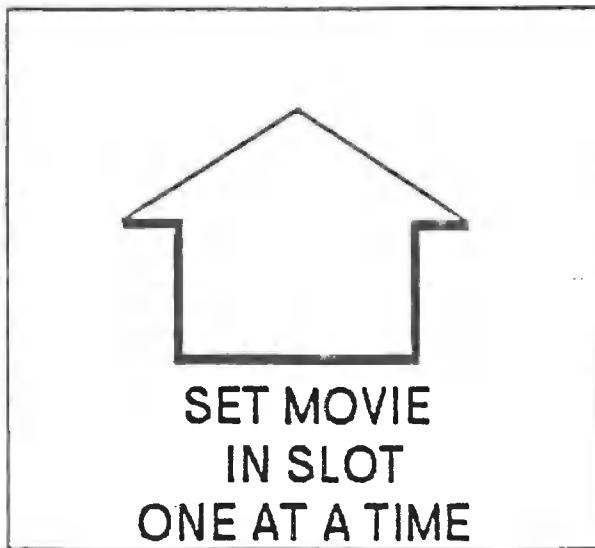
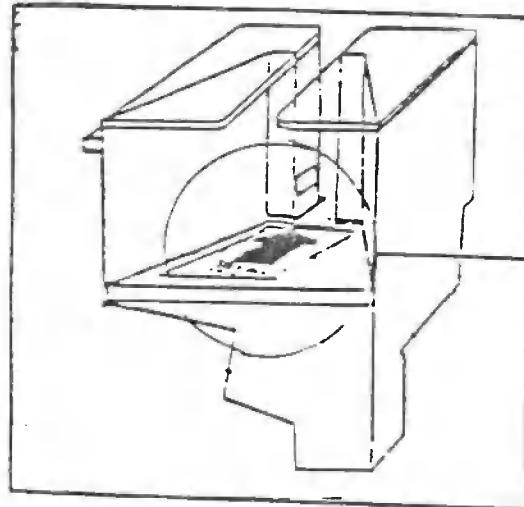
VIDEO VENDOR  
4235 MAIN ST SERVICE DEPARTMENT  
SKOKIE, IL. 60076

## TECHNICAL SERVICE BULLETIN #25

OF INTEREST TO

GENERAL MANAGER SALES MANAGER SERVICE MANAGER PARTS MANAGER SERVICE TECHNICIANS

THE STICKER PICTURED BELOW IS NOW AVAILABLE AT \$1.00 EACH, PART #X-724. IT IS DESIGNED TO SELF STICK ON THE TRANSPORT FLOOR TO HELP DIRECT THE CUSTOMER IN RETURNING MOVIES. WE RECOMMEND THAT YOU PUT ONE ON EACH OF YOUR MACHINES.

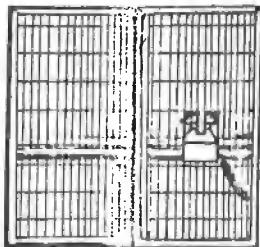


ACTUAL SIZE 3 1/2" X 3 3/4"  
COLOR: RED LETTERING ON WHITE PAPER

VIDEO VENDOR, INC  
4235 W. MAIN ST.  
SKOKIE, ILLINOIS 60076  
(312) 982-0440

# TECHNICAL SERVICE BULLETIN #26 rev. 1

ATTN: SERVICE DEPARTMENTS



MARCH 9, 1988

SUBJECT: DOLLAR BILL VALIDATOR REFUSING TO ACCEPT ANY BILLS.

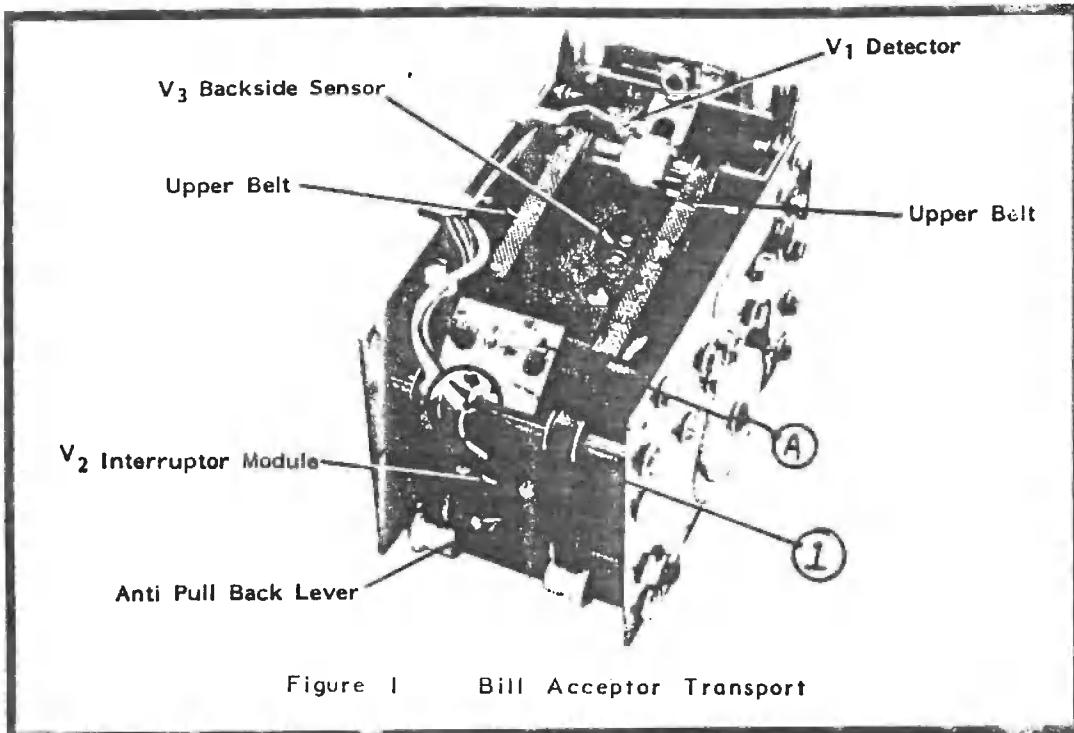


Figure 1 Bill Acceptor Transport

\* 1 POINTS TO THE SHIELDED GREY COVERED TWO WIRE CORD.  
THE TWO BLACK WIRES INSIDE ARE CONNECTED TO THE P.C. BOARD (A)  
IF THE SHIELD IS STICKING OUT FROM AROUND IT'S PLASTIC COVER AND  
TOUCHES ANY PART OF THE METAL CASING OR COVER IT WILL PREVENT  
YOUR MACHINE FROM TAKING ANY MORE CURRENCY.

IF YOU SEE THIS PROBLEM CORRECT IT BY COVERING THE EXPOSED SHIELD WITH  
ELECTRICAL TAPE OR BY MOVING THE WIRE SO THAT THERE IS NO WAY IT CAN  
TOUCH ANY PART OF THE METAL CASE.

ALSO SEE BULLETIN #19 FOR CORRECT ADJUSTMENTS OF THE O.B.A.

VIDEO VENDOR

4220 Main Street  
SACRAMENTO, CA 95870

Service Department

# Technical Service Bulletin 26a

Of Interest:  General Manager  Sales Manager  Service Manager  Parts Manager  Service Technicians

DECEMBER 5, 1988

SUBJECT: DOLLAR BILL VALIDATOR REFUSING TO ACCEPT BILLS.

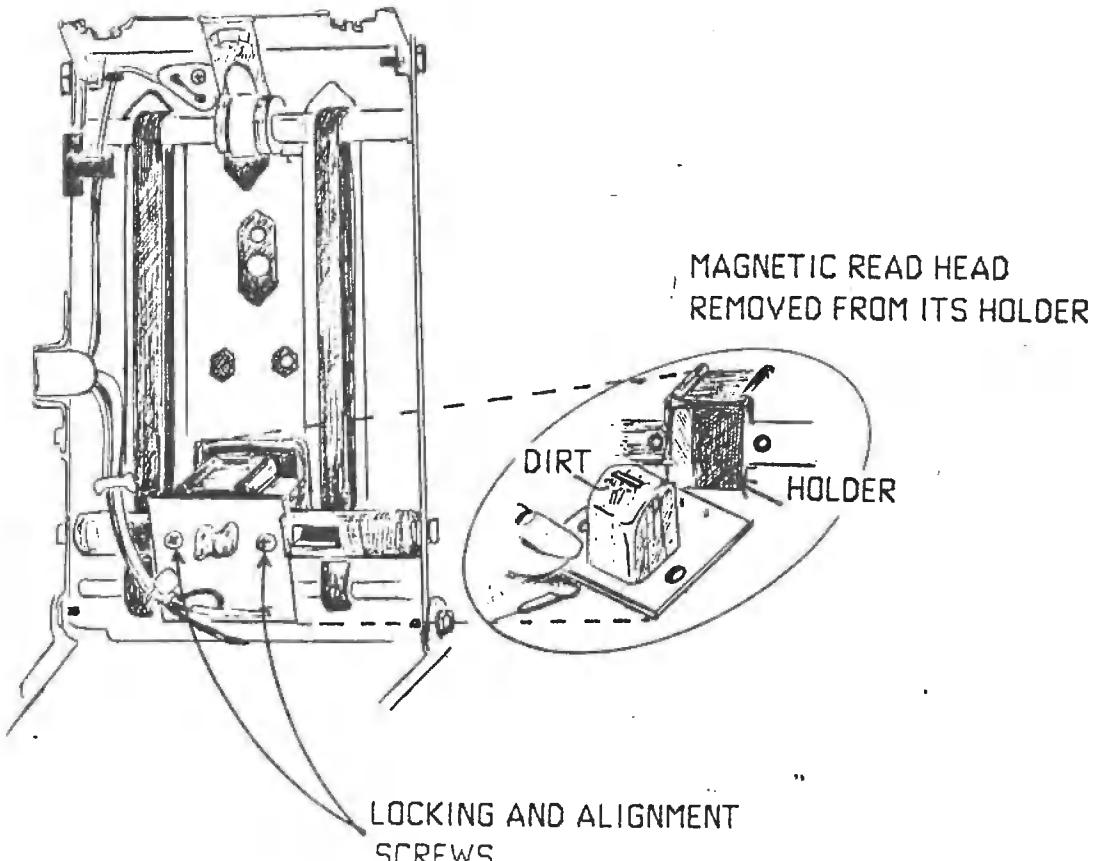
IF THE DOLLAR BILL VALIDATOR STILL TAKES DOLLAR BILLS INTERMITTENTLY AFTER DOING THE ADJUSTMENTS IN BULLETIN #19 AND YOU HAVE CHECKED FOR AN EXPOSED SHIELD GROUND SHORT. THE NEXT POSSIBILITY COULD BE DIRT ON THE MAGNETIC READ HEAD.

TO CLEAN THE HEAD TURN OFF THE AC POWER TO THE VIDEO VENDOR. OPEN THE TOP METAL SERVICE DOOR AND LIFT THE COVER ON THE DOLLAR BILL ACCEPTOR. THIS WILL GIVE YOU THE VIEW SHOWN IN FIGURE # 2. NOW REMOVE THE TWO SMALL ALLEN LOCKING AND ALIGNMENT SCREWS HOLDING THE MAGNETIC READ HEAD IN PLACE. AFTER THE SCREWS ARE REMOVED THE MAGNETIC READ HEAD SHOULD COME OFF AS SHOWN IN FIGURE #2 INSET. THE HEAD ASSEMBLY MIGHT NOT COME OUT EASY AFTER THE SCREWS ARE REMOVED SO PRY IT OUT CAREFULLY. DO NOT BREAK THE PLASTIC CIRCUIT BOARD TO WHICH IT IS ATTACHED.

ONCE THE HEAD IS REMOVED EXAMINE IT WITH A MAGNIFYING GLASS FOR DIRT. CLEAN IT WITH LIGHTER FLUID AND EXAMINE IT AGAIN.

REINSERT THE MAGNETIC READ HEAD AND INSTALL THE SCREWS. TURN POWER ON AND TEST THE BILL ACCEPTOR IN FEATURE #19 DIAGNOSTICS.

FIG. 2



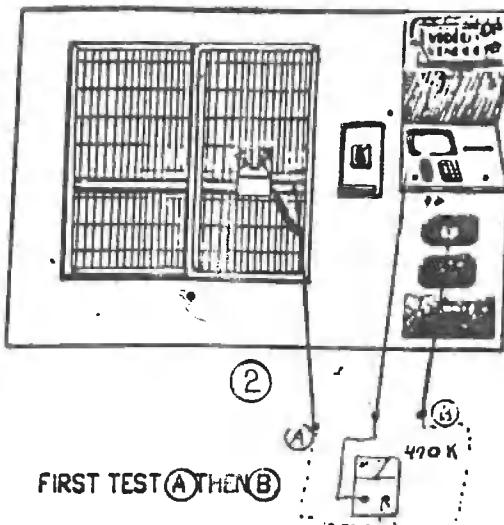
VIDEO VENDOR, INC

4235 W. MAIN ST.  
SKOKIE, ILLINOIS 60076  
(312) 982-0440

# TECHNICAL SERVICE BULLETIN #27

ATTN: SERVICE DEPARTMENTS

5/5/88



THE FOLLOWING IS A LIST OF CONDITIONS AND CHECKS TO MAKE IF THE KEYPAD LOCKS UP AND YOU CAN'T REGAIN CONTROL.

**①. KEYPAD LOCKS UP WHILE YOU ARE IN DIAGNOSTICS FEATURE 19.**

Probable cause is the grabber out signal is not yes and the software program is trying to pull the grabber out and cannot accomplish the move.

You can recover control of the keypad by pushing the master reset button on the MPB 1000 board or turning power off and on effectively resetting the machine. The grabber problem could be caused by a loose belt, loose set screw on drive pulley or electrical failure of the drive circuit.

**②. KEYPAD LOCKS UP UNDER NORMAL CUSTOMER USE.**

Problem caused by static electricity or poor grounding.

Check: Grounding of front metal plate on customer panel. (The plate that goes over the monitor and printer). There should be 470,000 OHMS resistance between that plate and the metal frame of the cassette storage or horizontal transport rail and the chrome lip of the dollar bill validator. If you get an extremely high reading, then the left side of the customer panel is not tight. If you get a low reading, a ground short exists at the cash box container and the under part of the bill validator on the front metal service door. Check for insulation tape on the front lip of the cash box where the dollar bills fall through the opening in the cash box. If there is not tape on it or the tape is scratched off, replace the tape but do not cover the opening where the bills fall through.

**③. KEYPAD LOCKS UNDER NORMAL CUSTOMER USE.**

Check to see that the keypad cable connector is making a solid connection.

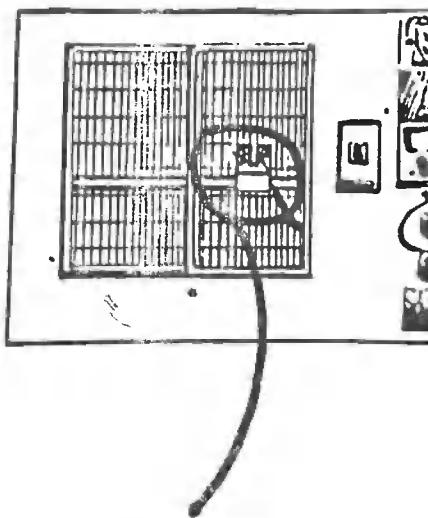
If all above fails to resolve the problem and the AC power to the Vendor has other equipment on the same line, order a MPB 1000 filter board part #A-3083. The filter will aid in suppressing transient electrical noise from getting in the system and causing problems.

VIDEO VENDOR, INC.  
4235 W. MAIN ST.  
SKOKIE, ILLINOIS 60076  
(312) 982-0440

# TECHNICAL SERVICE BULLETIN 28

ATTN: SERVICE DEPARTMENTS

5/25/88



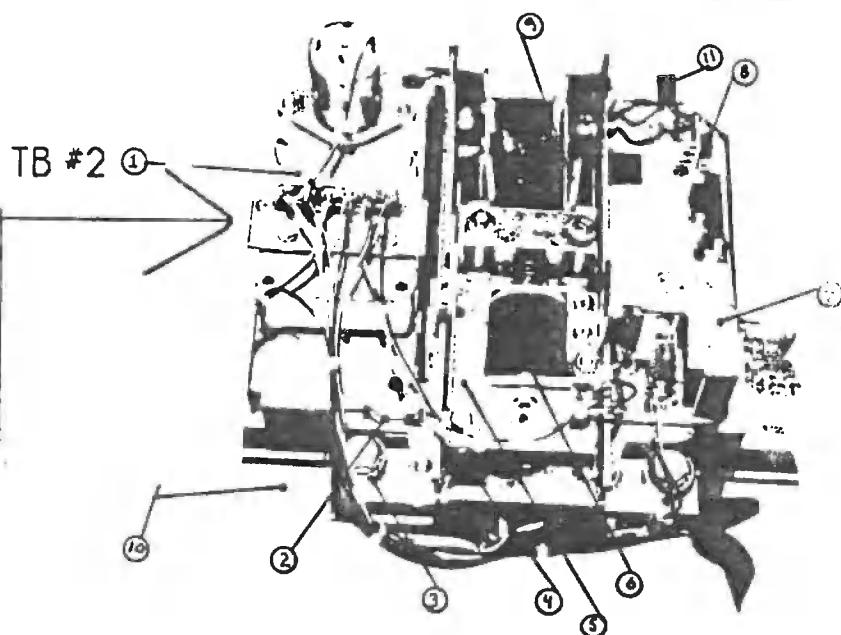
## PREMATURE FAILURE OF THE TAPE TOP CIRCUIT BOARD

IF THE ELECTRICAL INSULATING TAPE COVERING THE SIX PIN TERMINAL STRIP TB#2 SHOULD COME OFF, IT IS POSSIBLE FOR THE TRANSPORT COVER TO CAUSE 28 VOLTS TO BE PUT ON THE TAPE TOP CIRCUIT BOARD. THIS WILL CAUSE PREMATURE FAILURE OF THE BOARD.

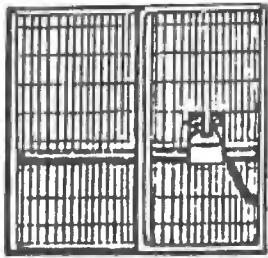
THE SOLUTION TO THIS PROBLEM IS TO CHECK THIS TERMINAL BOARD AND INSTALL THE ELECTRICAL INSULATION TAPE IF IT IS MISSING.

PICTURED BELOW IS A REPRESENTATION OF THE RETRIEVER ASSEMBLY WITH THE COVER REMOVED.

IF TAPE PROTECTION IS MISSING  
PUT PLASTIC ELECTRICAL  
TAPE OVER THESE TERMINALS  
TO PREVENT CONTACT WITH  
THE STAINLESS STEEL COVER.



VIDEO VENDOR, INC.  
4235 W. MAIN ST.  
SKOKIE, ILLINOIS 60076  
(312) 982-0440



TECHNICAL SERVICE BULLETIN #29

AUGUST 30, 1988

SUBJECT: GRABBER SOLENOID TROUBLE SHOOTING TECHNIQUE.

THE GRABBER IS THE DEVICE THAT CLAMPS ONTO THE CASSETTE AND MOVES IT ON AND OFF THE SHELF. THE FOLLOWING ARE SOME OF THE CAUSES AND CORRECTIONS TO PROBLEMS THAT MIGHT ARISE IN GRABBER FAILURES.

<u>CAUSE</u>	<u>CORRECTION</u>
1. <i>GRABBER FAILS TO CLOSE.</i>	(A) NO VOLTAGE AT GRABBER TERMINALS. SHOULD BE AT LEAST 19 VOLTS. (FIG. 1) (B) CHECK DIODE ACROSS GRABBER TERMINAL FOR SHORT. PARTICULARLY IF YOU BLOW THE FUSE WHEN THE GRABBER CLOSES. (FIG. 2) (C) CHECK FOR BROKEN GRABBER WIRE. (USUALLY AT THE POINT WHERE WIRE GOES TO SOLENOID COIL OF GRABBER.) (D) CHECK FOR DEFECTIVE GRABBER SOLENOID OR MCB 1000 BOARD. VOLTAGE AT J3 PIN 10 SHOULD BE 29 VOLTS WHEN GRABBER IS OPEN AND 0 VOLT WHEN GRABBER IS CLOSED. SEE BULLETIN 13 FOR MEASUREMENTS. (E) CHECK THAT GRABBER TERMINALS ARE NOT TOUCHING ANY METAL SURFACE. (FIG. 1)
2. <i>CASSETTE SLIDES OUT OF GRABBERS GRIP.</i>	(A) CLEAN GRABBER PADS WITH DENATURED ALCOHOL SOLUTION OR REPLACE GRABBER PAD IF WORN. (B) CHECK GAP BETWEEN GRABBER PADS. IT SHOULD BE 1 1/4". (FIG. 2) (C) CHECK BRASS SCREW (MAGNETIC BRAKE) ONLY ONE THREAD SHOULD BE SHOWING ON INSIDE OF THE SOLENOID TUBE. (FIG. 1)
3. <i>GRABBER RELEASES INTERMITTENTLY FOR NO APPARENT REASON.</i>	(A) REPLACE GRABBER WIRES BETWEEN GRABBER & TERMINAL (FIG. 2). (B) CHECK GAP BETWEEN INSIDE DIMENSION OF GRABBER PADS. SHOULD BE 1 1/4". (FIG. 2)

4. *GRABBERS WILL NOT RELEASE.* (A) CHECK THE BRASS SCREW ADJ. (MAGNETIC BREAK) ONLY ONE THREAD SHOULD BE SHOWING ON THE INSIDE OF THE SOLENOID TUBE. (FIG. 1)  
(B) CHECK FOR MECHANICAL BINDS CAUSED BY THE STAR LOCK WASHER COMING OFF THE PIN HOLDING THE GRABBER IN PLACE. (FIG. 2)
5. *GRABBER FIRES TO EARLY AND DOES NOT GET THE CASSETTE OFF THE SHELF.* (A) THE GRABBER IN MICRO SWITCH IS BAD GIVING A GRABBER IN SIGNAL TOO SOON. REPLACE SWITCH. (FIG. 2)
6. *GRABBER GOES ALL THE WAY IN BUT DOESN'T TRY AND GRAB A CASSETTE. MOTOR RUNS LONGER THAN USUAL.* (A) THE GRABBER IN MICRO SWITCH IS BAD OR OUT OF ADJUSTMENT AND DOESN'T GIVE A GRABBER IN SIGNAL TO THE PROCESSOR BOARD. REPLACE THE SWITCH OR ADJUST THE GRABBER IN BRACKET. (FIG. 2)  
(B) CHECK SENSORS, TAPE TOP, TAPE FRONT AND TOP BACK FOR MALFUNCTIONS. (FIG. 4)
7. *GRABBER DOESN'T MOVE BUT MOTOR RUNS.* (A) CHECK URETHANE DRIVE BELT FOR SLIPPAGE.  
(B) CHECK SET SCREW ON BELT DRIVE PULLEY. INSURE IT IS TIGHT.  
(C) CHECK DRIVE BELT CLAMP FOR TIGHTNESS. ALSO THE BELT KEEPERS SOMETIME CATCH THE BELT WELD POINT AND PREVENT BELT FROM DRIVING.  
(D) GRABBER OUT SWITCH IS NOT WORKING AND "Z" MOTOR IS TRYING TO PULL THE GRABBER OUT AGAINST REAR STOP. (FIG. 3) REPLACE SWITCH.
8. *GRABBER DOESN'T MOVE AND Z MOTOR DOESN'T RUN.* (A) "Z" MOTOR BAD. (FIG. 4) CHECK VOLTAGE ACROSS MOTOR TERMINALS. IT ALTERNATES DEPENDING ON DIRECTION. SEE BULLETIN 13A.

BULLETIN 29

FIG. 1

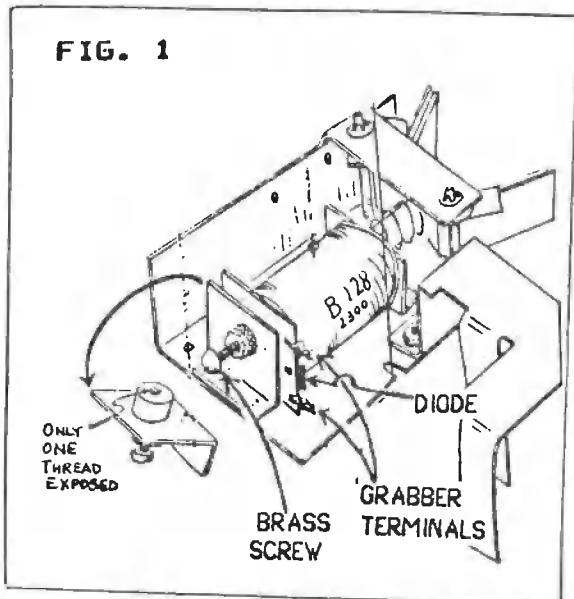


FIG. 2

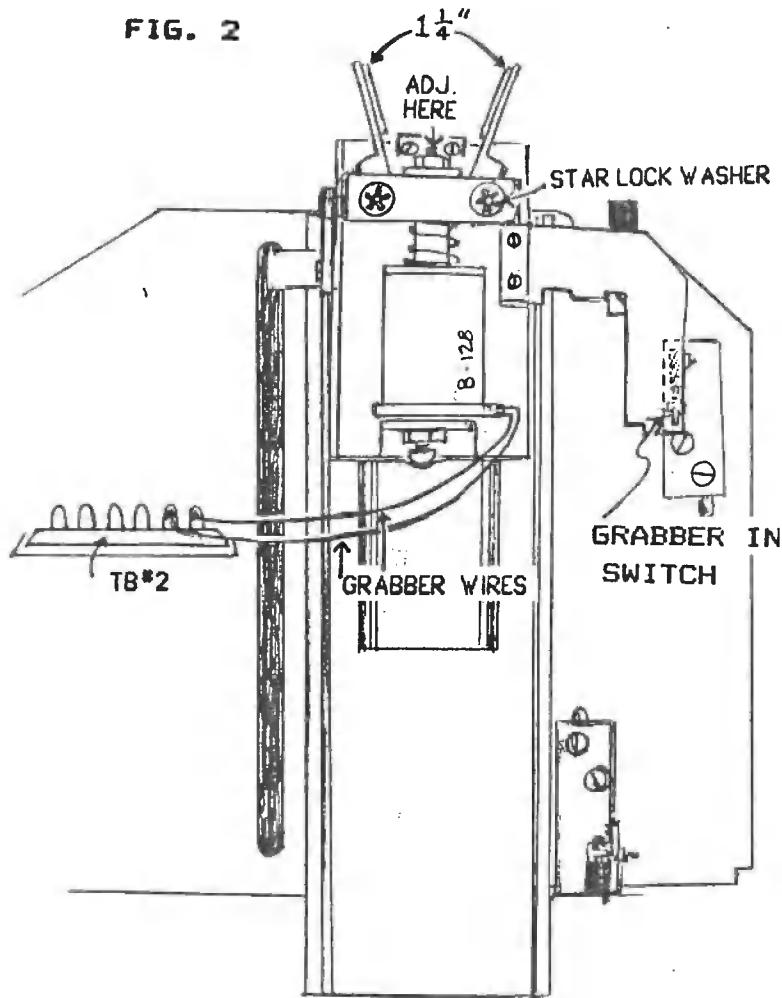


FIG. 3

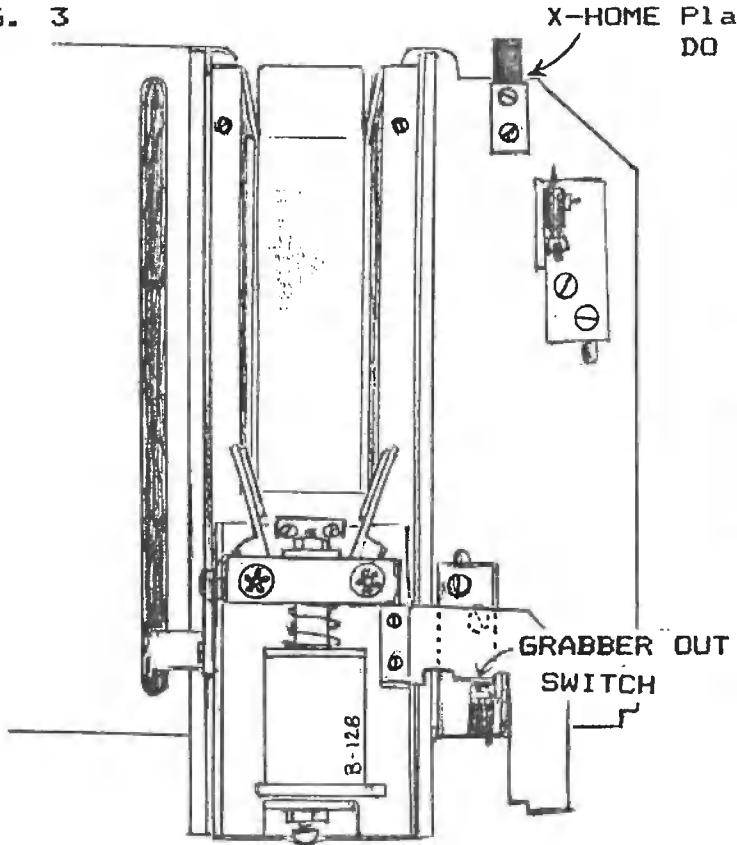
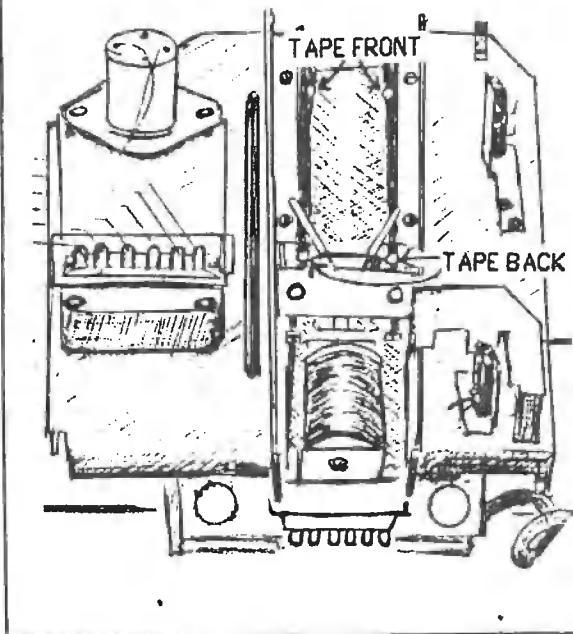
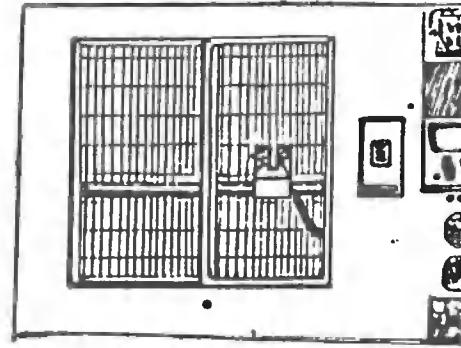


FIG. 4



VIDEO VENDOR  
4235 W. MAIN STREET  
SKOKIE, ILLINOIS 60076  
312-982-0440



TECHNICAL SERVICE BULLETIN # 30.

SEPTEMBER 23, 1988

SUBJECT: BODY DETECTOR ADJUSTMENT & TEST PROCEDURE.

THE BODY DETECTOR IS AN ELECTRONIC SENSOR LOCATED ON A CIRCUIT BOARD (PART # B-3061) BEHIND THE TWO SMALL RED LENSES IN FRONT OF THE CUSTOMER CONSOLE. (FIG. 1)

THE PURPOSE OF THE BODY DETECTOR IS TO DETECT THE PRESENTS OF A CUSTOMER STANDING IN FRONT OF THE VIDEO VENDOR. THE SENSOR WILL LOCK ON (YES) WHEN A CUSTOMER STANDS WITHIN THE SENSOR FIELD. IF THE PERSON MOVES OUT OF THAT FIELD, THE BODY SENSOR GOES TO A "NO" CONDITION AND ASSUMES THAT CUSTOMER WALKED AWAY FROM THE MACHINE. THE TRANSACTION IS TERMINATED ON A "NO" CONDITION UP UNTIL THE TRANSACTION IS FULLY PAID.

ON A RENTAL OR RETURN, AT THE END OF PAYMENT THE CUSTOMER MAY LEAVE THE SENSOR FIELD WITHOUT THE VENDOR TERMINATING THE TRANSACTION

BEFORE ATTEMPTING ADJUSTMENT OF THE BODY DETECTOR, CHECK THE METAL SHIELD ON THE BODY DETECTOR BOARD. THE SHIELD MUST HAVE ITS EXTERNAL GREEN GROUND WIRE ATTACHED OR THE BODY DETECTOR BOARD WILL WORK ERRATICALLY BY STAYING ON, NOT GOING OFF OR NOT COMING ON AT ALL.

THE RANGE OF THE SENSOR FIELD IS A FIELD 7" WIDE BY 30" LONG. THIS FIELD WILL VARY DEPENDING ON THE SETTING OF THE BODY DETECTOR ADJUSTMENT POT. (FIG. 1) THE BODY DETECTOR ADJUSTMENT IS LOCATED ON THE BODY DETECTOR BOARD. THE BOARD IS MOUNTED BEHIND THE TWO RED LINES. (FIG. 2) YOU GAIN ACCESS TO THE BOARD BY OPENING THE COIN DOOR (THE TOP BLACK METAL DOOR). THE ADJUSTMENT IS A SMALL SCREW ON THE END OF A BLUE POT LOCATED MOUNTED ON THE BODY DETECTOR BOARD. TURNING THE POT CLOCKWISE (CW) LENGTHENS THE SIZE OF THE FIELD. TURNING THE POT COUNTER CLOCKWISE SHORTENS THE FIELD. THE POT HAS AN EFFECTIVE RANGE OF 25 TURNS. AT THE END OF IT'S RANGE THE POT WILL CONTINUE TO TURN. YOU WILL HEAR A CLICKING SOUND BUT EFFECTIVELY NOTHING MORE IS HAPPENING.

THE BEST METHOD OF ADJUSTING THE POT IS TO TURN IT CLOCKWISE UNTIL YOU HEAR A CLICK. AT THE SOUND OF THE CLICK TURN THE POT 2 TURNS COUNTER CLOCKWISE. THE CLICK MEANS YOU HAVE REACHED THE END OF THE ADJUSTMENT. CONTINUED TURNING OF THE POT AFTER THE CLICK WILL HAVE NO EFFECT OR MAY DAMAGE THE POT.

TO TEST THE BODY SENSOR ADJUSTMENT GO INTO FEATURE 19 DIAGNOSTICS AND OBSERVE THE BODY SENSOR (YES/NO) INDICATOR ON THE LOWER LEFT OF THE CRT SCREEN. HOLD A PIECE OF PAPER IN THE SENSOR FIELD AND MOVE IT SLOWLY TOWARD THE MACHINE FROM A DISTANCE GREATER THAN 40", UNTIL THE BODY DETECTOR SIGNALS YES. THAT IS THE BEGINNING OF THE SENSORS FIELD. THE REASON FOR MOVING THE PAPER SLOWLY IS THAT THERE IS A 2 SECOND DELAY IN THE CIRCUITRY TO ELIMINATE ELECTRICAL NOISE.

IF THE BODY SENSOR IS LOCKED UP AND YOU ARE NOT SURE THE PROBLEM LIES IN THE BODY DETECTOR YOU CAN DO THE FOLLOWING. REMOVE THE 5 PIN CIRCUIT PLUG FROM THE BODY DETECTOR BOARD. THE INDICATION ON THE CRT SCREEN SHOULD GO TO:

BODY SENSOR NO

NEXT INSTALL A JUMPER WIRE IN THE END OF THE 5 PIN PLUG BETWEEN THE GREEN WIRE (GROUND) AND THE PURPLE WIRE (SIGNAL TO PROCESSOR) THE INDICATION ON THE SCREEN SHOULD GO TO: (FIG.3)

BODY SENSOR YES

IF BOTH THESE TESTS ARE POSITIVE YOUR PROBLEM IS WITH THE BODY DETECTOR BOARD, AN ADJUSTMENT OR REPLACEMENT IS NEEDED. IF EITHER ONE IS DIFFERENT YOUR PROBLEM IS WITH THE MICRO PROCESSOR MPB 1000.

FIG. 3

VIEW INSIDE VENDOR  
FROM SMALL REAR DOOR

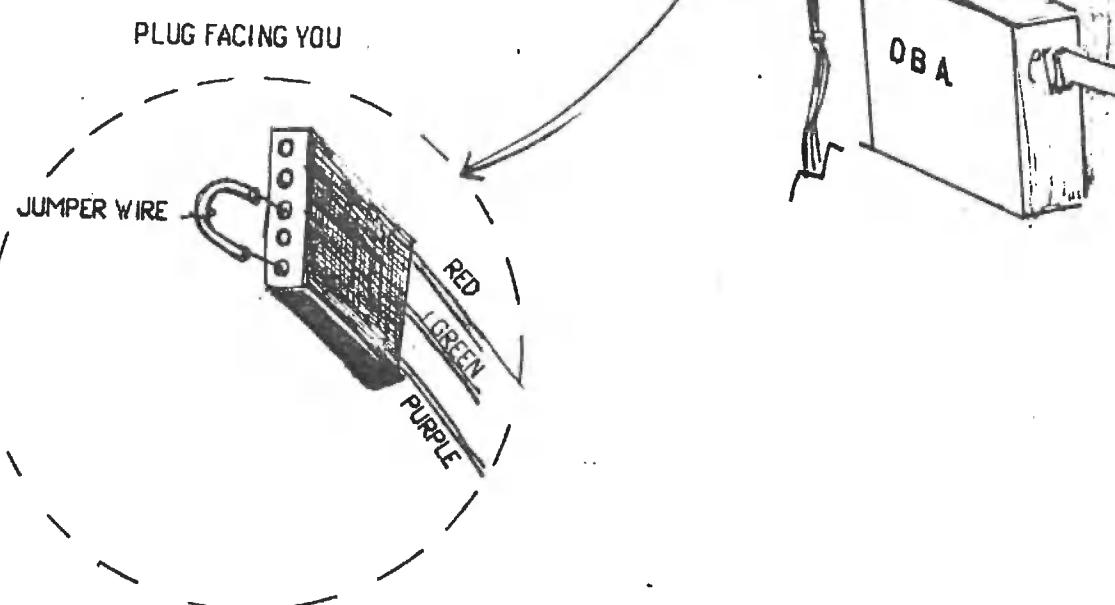
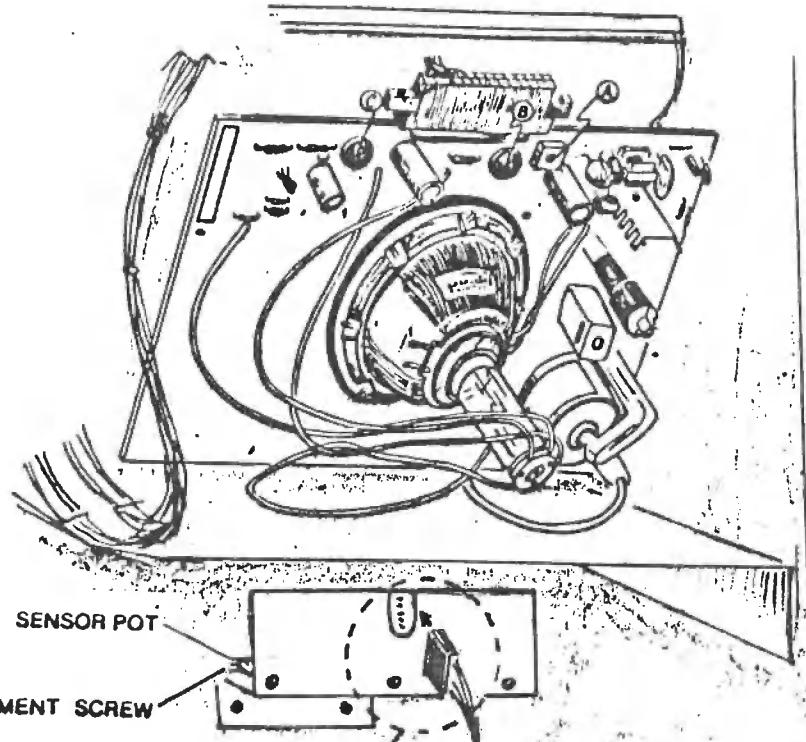


FIG. 1

TOP VIEW OF VIDEO VENDOR

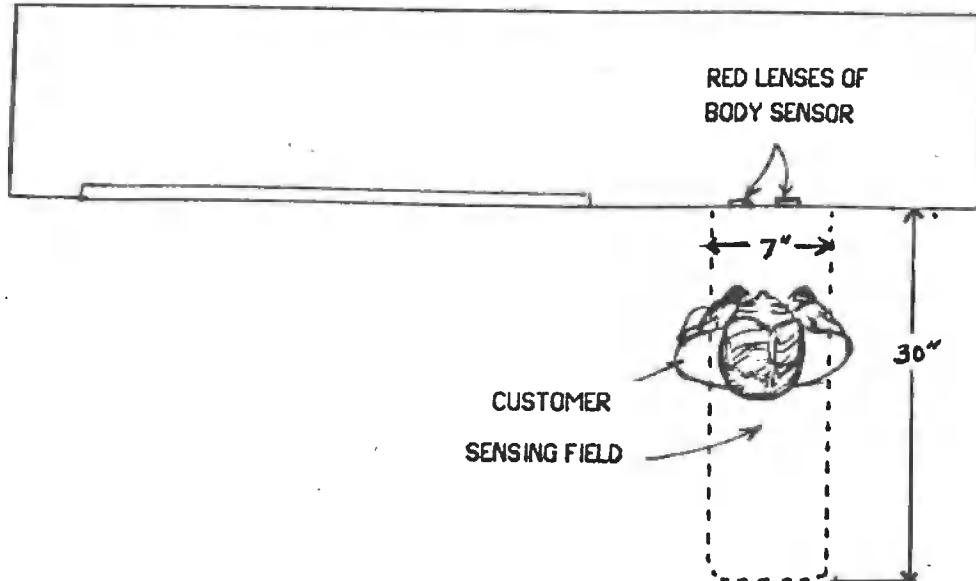
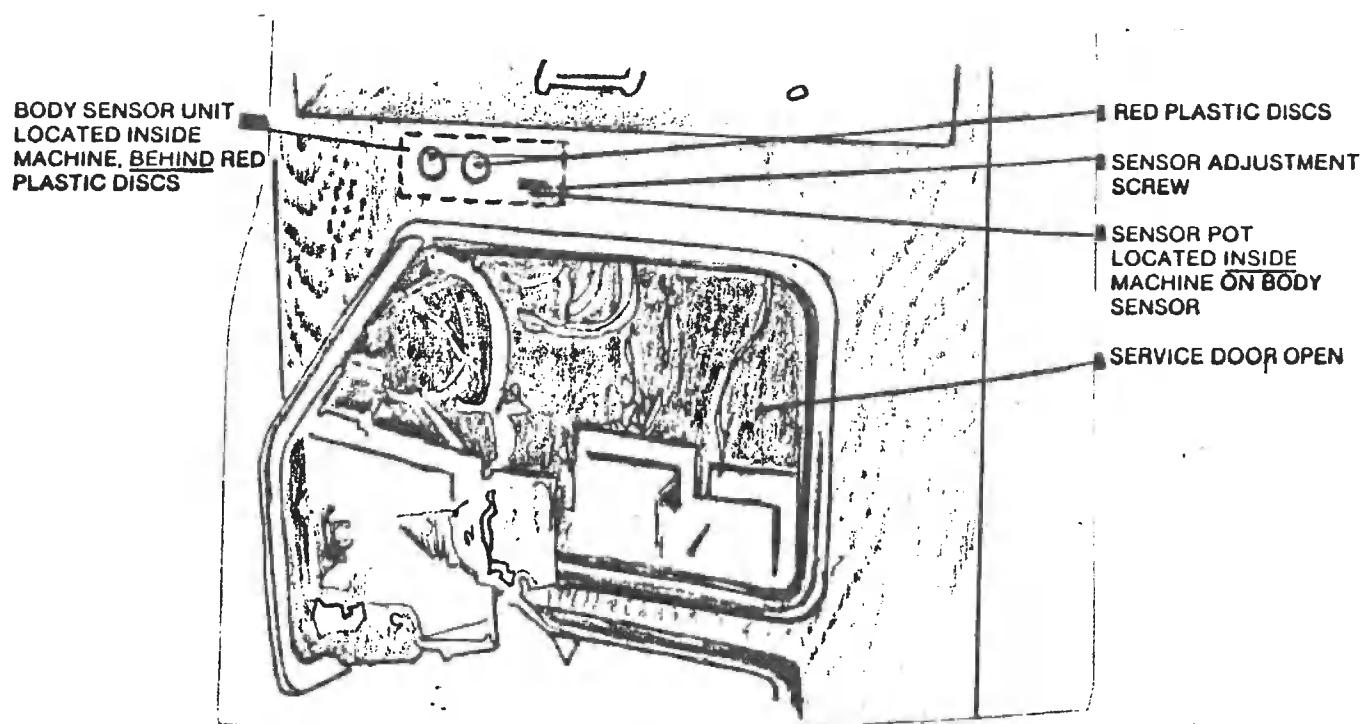


FIG. 2



WE SUGGEST USING THIS END...IT  
FITS OVER ADJUSTMENT SCREW  
AND HAS BLADE WHICH FITS INTO  
ADJUSTMENT SCREW SLOT

SENSOR POT ADJUSTER PEN

SCREWDRIVER FITS IN-  
SLOT ON  
ADJUSTMENT SCREW



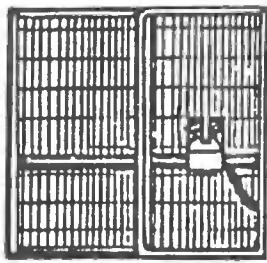
**VIDEO VENDOR**

628 MAIN STREET  
SUITE 11, BOSTON

Service Department

# Technical Service Bulletin 31

Off Manager  General Manager  Sales Manager  Service Manager  Parts Manager  Service Technicians



DECEMBER 10, 1988

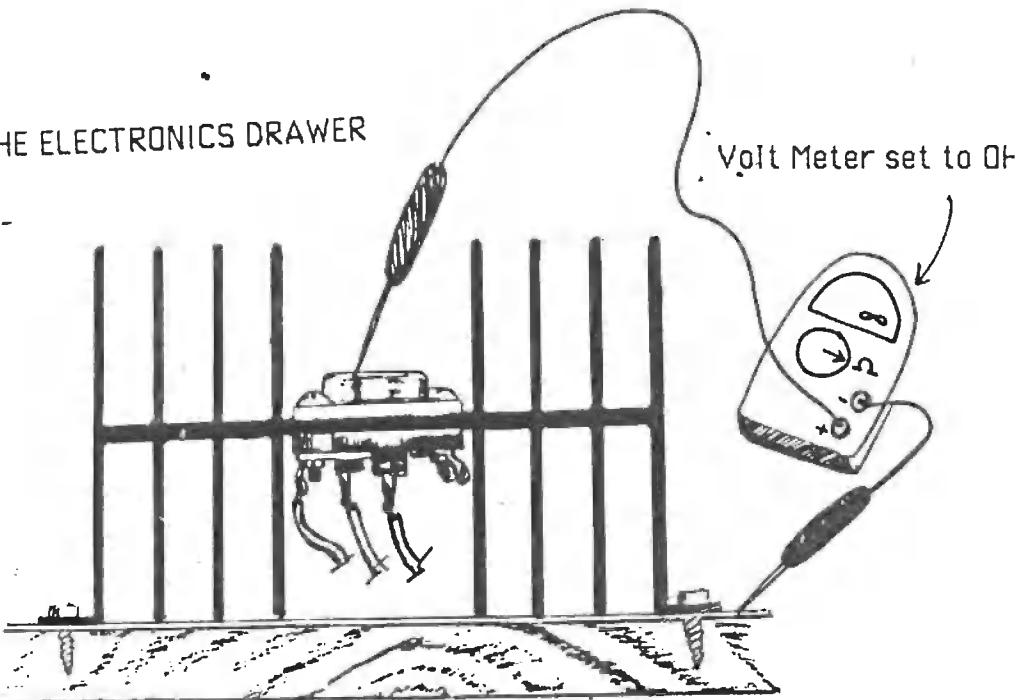
**SUBJECT: BODY DETECTION LOCK UP AFTER A MONEY TRANSACTION.**

WE HAVE FOUND A PROBLEM WHICH CAUSES THE BODY DETECTOR TO HANG UP WITH A YES CONDITION AFTER THE VENDOR TURNS ON THE BILL ACCEPTOR. THIS IS NOT USUALLY A BODY SENSOR PROBLEM, RATHER IT IS A SHORTED POWER TRANSISTOR IN THE MOTOR CONTROLLER POWER SUPPLY. OTHER SYMPTOMS ARE YOU MAY NOTICE THE TRANSPORT MOVING AT A MUCH HIGHER THAN NORMAL SPEED; THE ROBOT MAY HOME OK AT THE BOTTOM (Y) AXIS OF THE MACHINE BUT WILL NOT FIND HORIZONTAL (X) HOME AT THE ACCESS DOOR WHILE TRYING TO VEND A TAPE TO A CUSTOMER.

TO DIAGNOSE THE PROBLEM IF YOU OBSERVE THE DESCRIBED SYMPTOM. TURN OFF THE A.C. POWER TO THE VENDOR BY THE POWER SWITCH ON TOP OF THE VENDOR. OPEN THE ELECTRONICS DRAWER AND LOCATE THE HEAT SINK ASSEMBLY PICTURED IN FIG. 1. CONNECT AN OHM METER AS SHOWN IN THE PICTURE. ONE LEAD ON THE METAL SURFACE OF THE TRANSISTOR AND ONE LEAD ON THE METAL PLATE OF THE DRAWER. YOU MAY HAVE TO SCRATCH THE LEADS AGAINST THE POINTS IN QUESTION IN ORDER TO MAKE GOOD CONTACT. THE READING SHOULD BE VERY HIGH IN THE 50 MILLION OR MORE RANGE, INFINITY READING IS PREFERRED. A LOW READING UNDER A MILLION OHMS INDICATES A LEAKY OR SHORTED TRANSISTOR WHICH MUST BE REPLACED. ORDER PART # A-3080 HEAT SINK ASSEMBLY.

FIG. 1

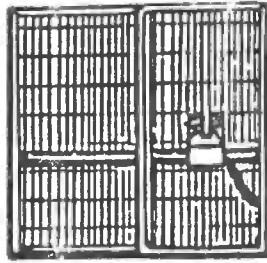
REAR LEFT SIDE OF THE ELECTRONICS DRAWER



VIDEO VENDOR  
6228 MAIN STREET  
URBANA, IL. 61801  
Service Department

# Technical Service Bulletin 32

Inventory  General Manager  Sales Manager  Service Manager  Parts Manager  Service Technicians



DECEMBER 15, 1988

SUBJECT: ACCIDENTAL RETURNING OF CUSTOMER TAPES.

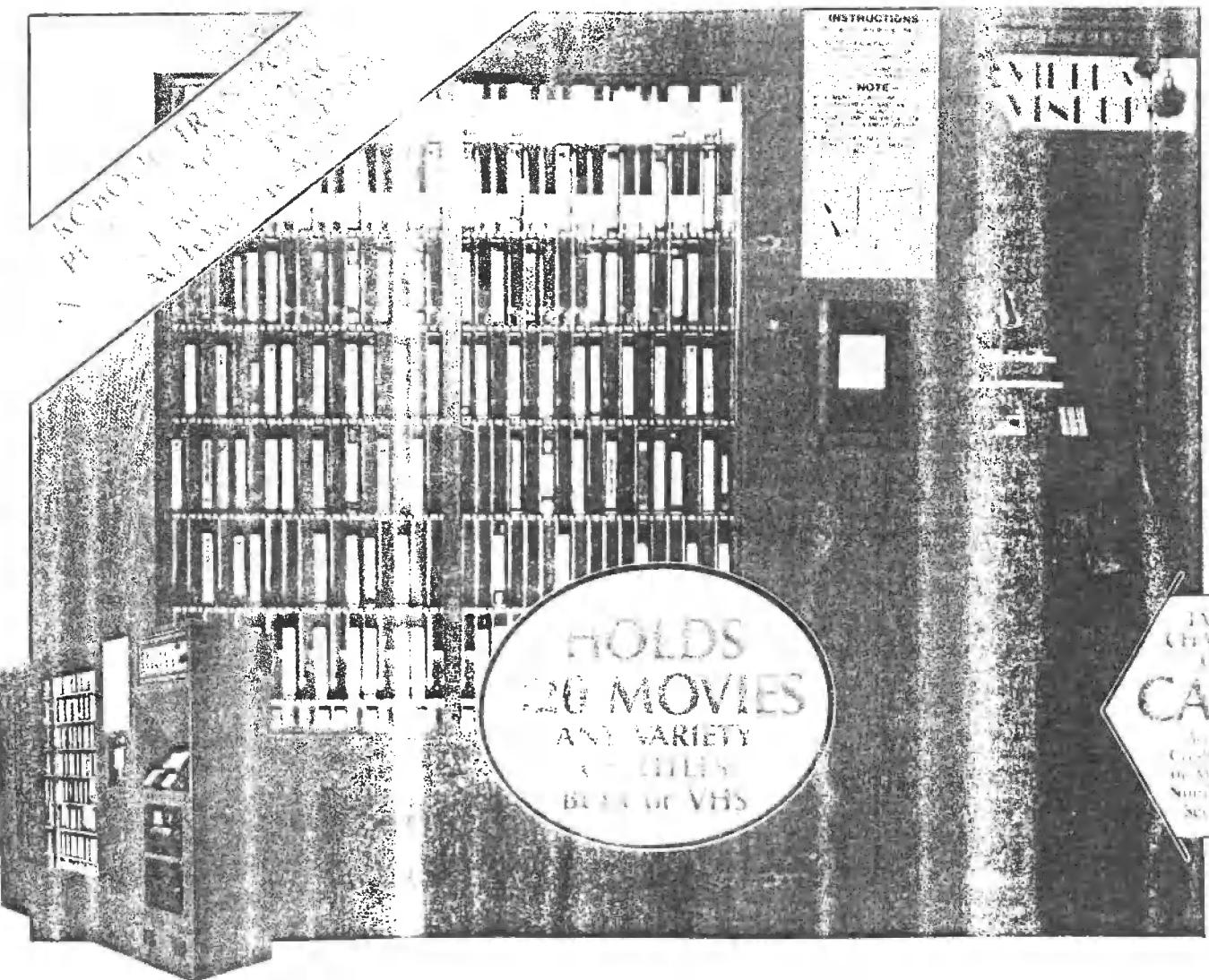
**THE VENDOR SAYS THAT A TAPE FROM 1-20 WHICH IS REALLY OUT IS IN.**

THIS SITUATION CAN EASILY OCCUR AND IS USUALLY A TAPE WHOSE SLOT IS FROM 1-20. IT HAPPENS WHEN YOU ARE SERVICING THE MACHINE IN OPTION #18 RETURN TAPES.

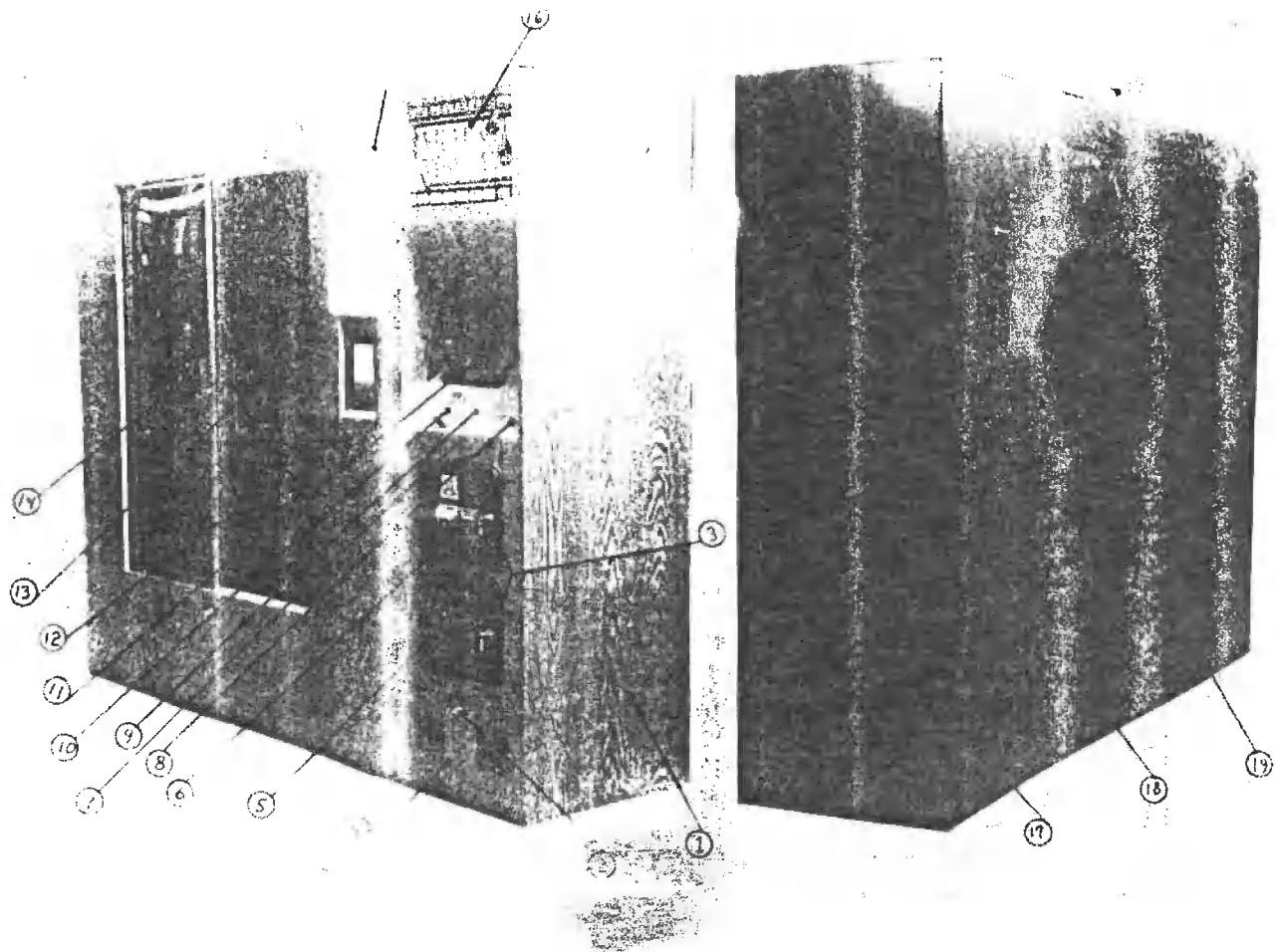
IF THE SERVICE PERSON DOES NOT CHECK TO MAKE SURE THEY HAVE EXITED BACK TO THE MENU BEFORE CHOOSING ANOTHER SERVICE ITEM, THEY WILL IN ACTUALITY RETURN A TAPE INSTEAD OF CHOOSING A MENU OPTION. USUALLY YOU'LL FIND THE TAPES RETURNED BY THIS ACCIDENT ARE #2, #3, #10. **ALWAYS WATCH THE SCREEN.** THE SERVICE PERSON MUST GO TO THE MAIN MENU BEFORE PROCEEDING TO HIS NEXT FUNCTION WHICH IS USUALLY FEATURE #2 ADD CREDITS. BY PRESSING THE "2" BUTTON WHEN HE IS NOT IN MENU HE INADVERTENTLY RETURNS TAPE #2. IF IT HAPPENS TO BE OUT, HE MAY ALSO RETURN OTHER TAPES IF HE IS NOT CAREFUL.

# VIDEO VENDOR PARTS MANUAL

JAN. 86

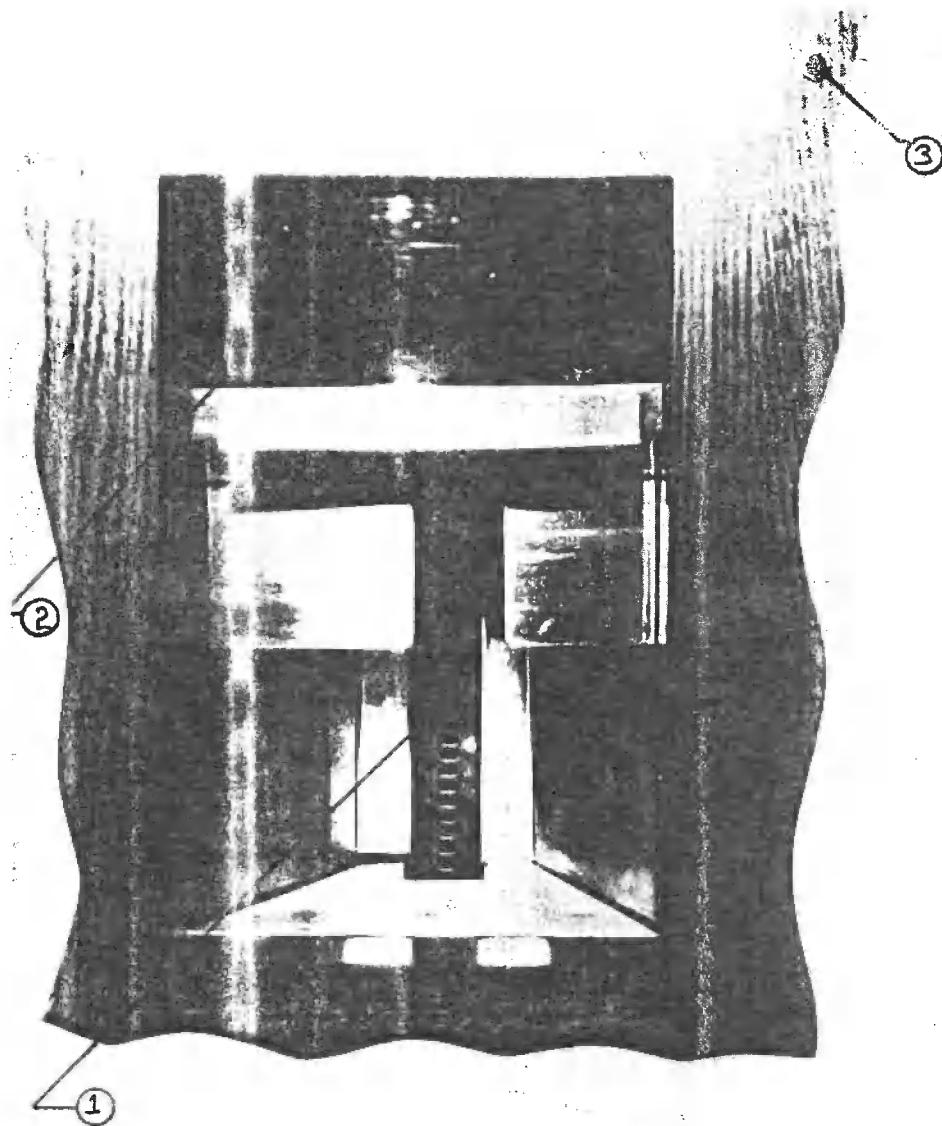


**VIDEO VENDOR**  
**EXTERIOR CABINET**



DETAIL	PART #	DESCRIPTION
1	23R-266	01-1 CABINET
2	3A-243	01-2 LOCK
3	3A-243	01-3 LOCK
4	A-3068	01-4 ELECTRONICS DOOR ASSEMBLY
5	A-3011	01-4 CASH DOOR
6	A-2950	01-6 COIN DOOR & VALIDATOR ASSEMBLY
7	01-7	01-7 RED BODY SENSOR LENS
8	A-3019	01-8 COMMAND CENTER CONTROL PLATE ASSEMBLY
9	A-2949	01-9 KEYPAD
10	B-2991	01-10 CREDIT CARD READER
11	B-3043	01-11 MONITOR
12	D-3014	01-12 DOOR ASSEMBLY
13	A-3000	SEE PAGE (7) FOR TRANSPORTER COVER DETAILS
14	A-2960	SEE PAGE (8) FOR RETRIEVER AND TROLLEY ASS'Y
15	13B-235	01-15 INSTRUCTION DECAL
16	13C-232	01-16 MARQUEE
17	A-3045	01-17 FAN ASSEMBLY
18	A-3041	01-18 BACK DOOR ASSEMBLY (COMMAND CENTER) For interior information see pages (4,5)
19	A-3042	01-19 BACK DOOR ASSEMBLY (TAPE STORAGE) For interior information see page (10)

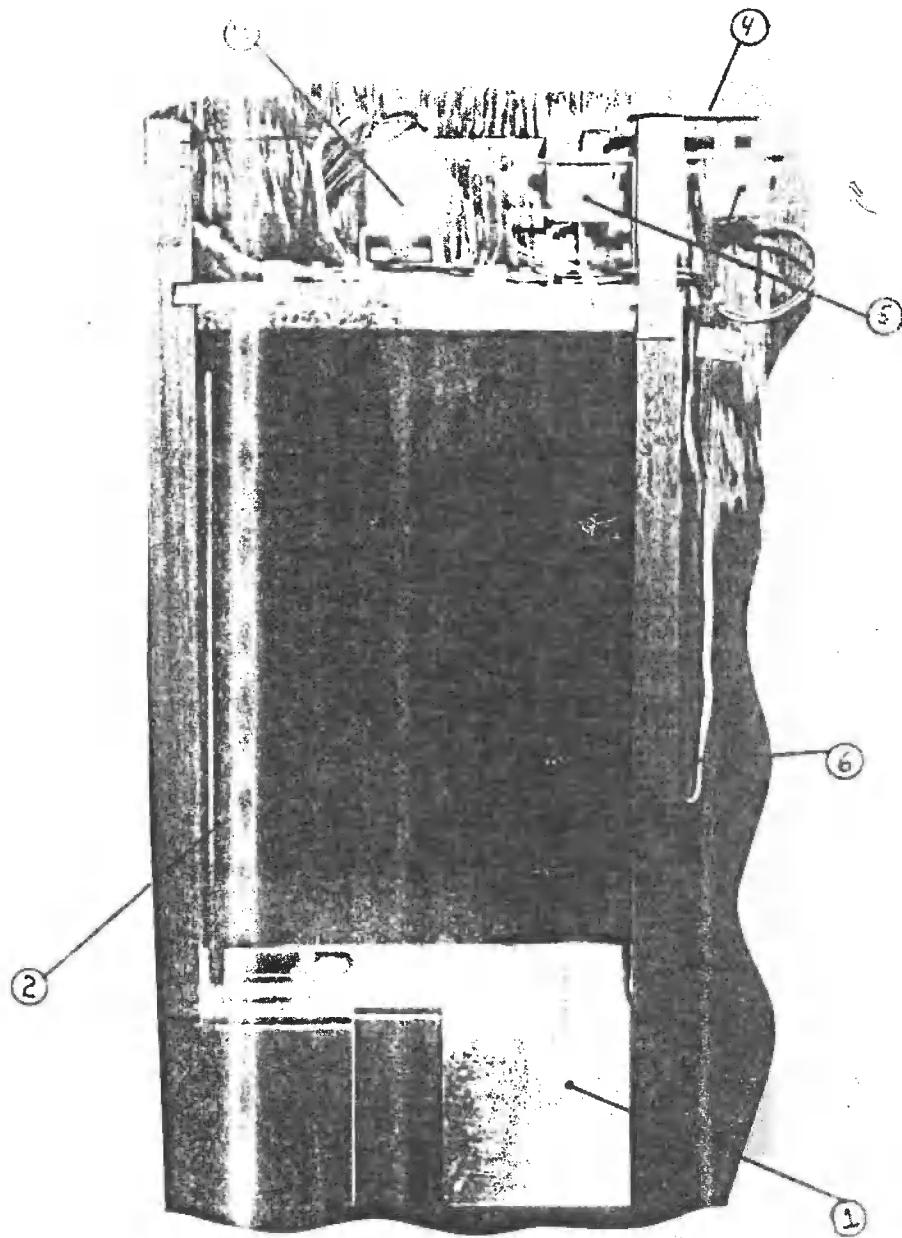
**VIDEO VENDOR**  
CABINET FRONT DOOR ASSEMBLY



DETAIL	PART #	DESCRIPTION
1	ID-2496	02-1 MOTOR ENCODER COVER
2	4C-997	02-2 CASSETTE ACCESS DOOR
3	8A-790	02-3 INDICATOR LIGHT

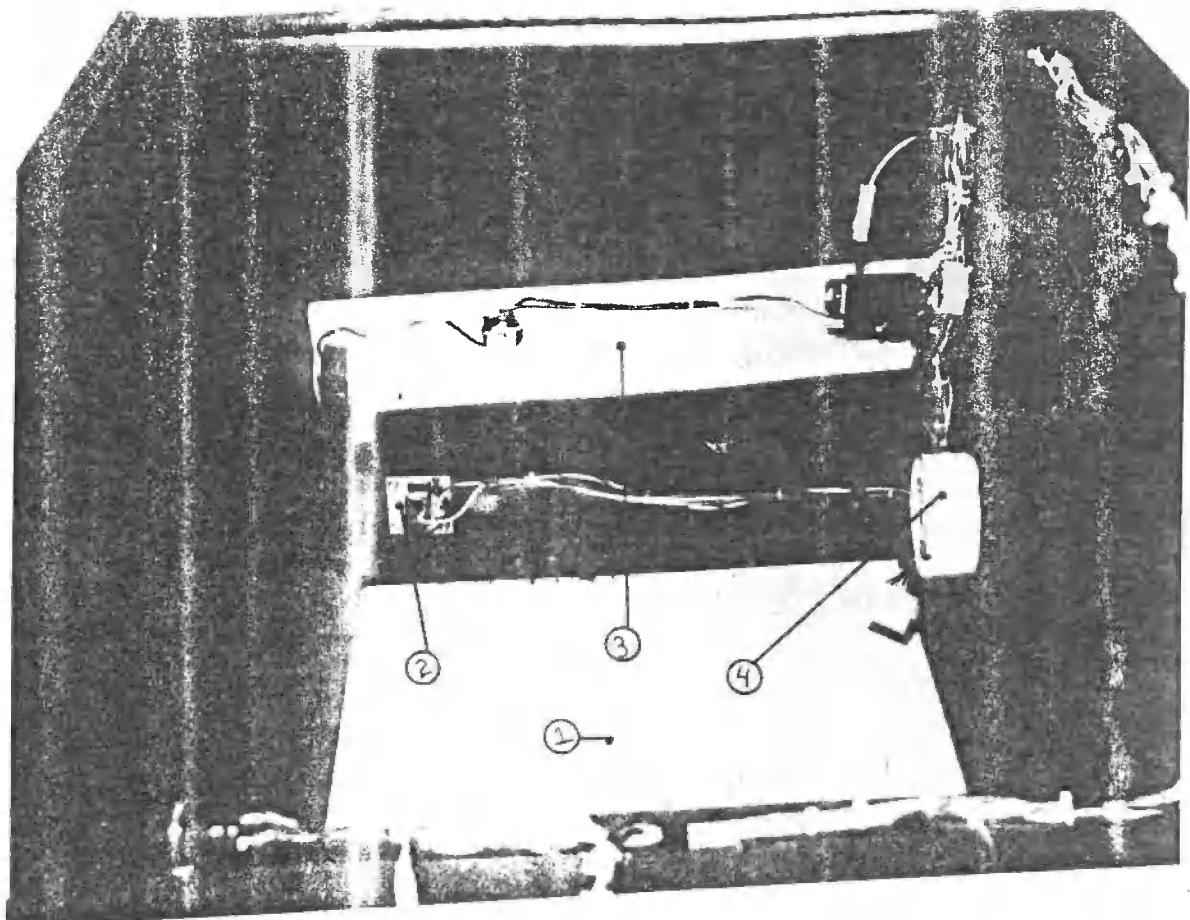
See Page (3) for rear interior view

**VIDEO VENDOR**  
REAR INTERIOR VIEW ACCESS DOOR



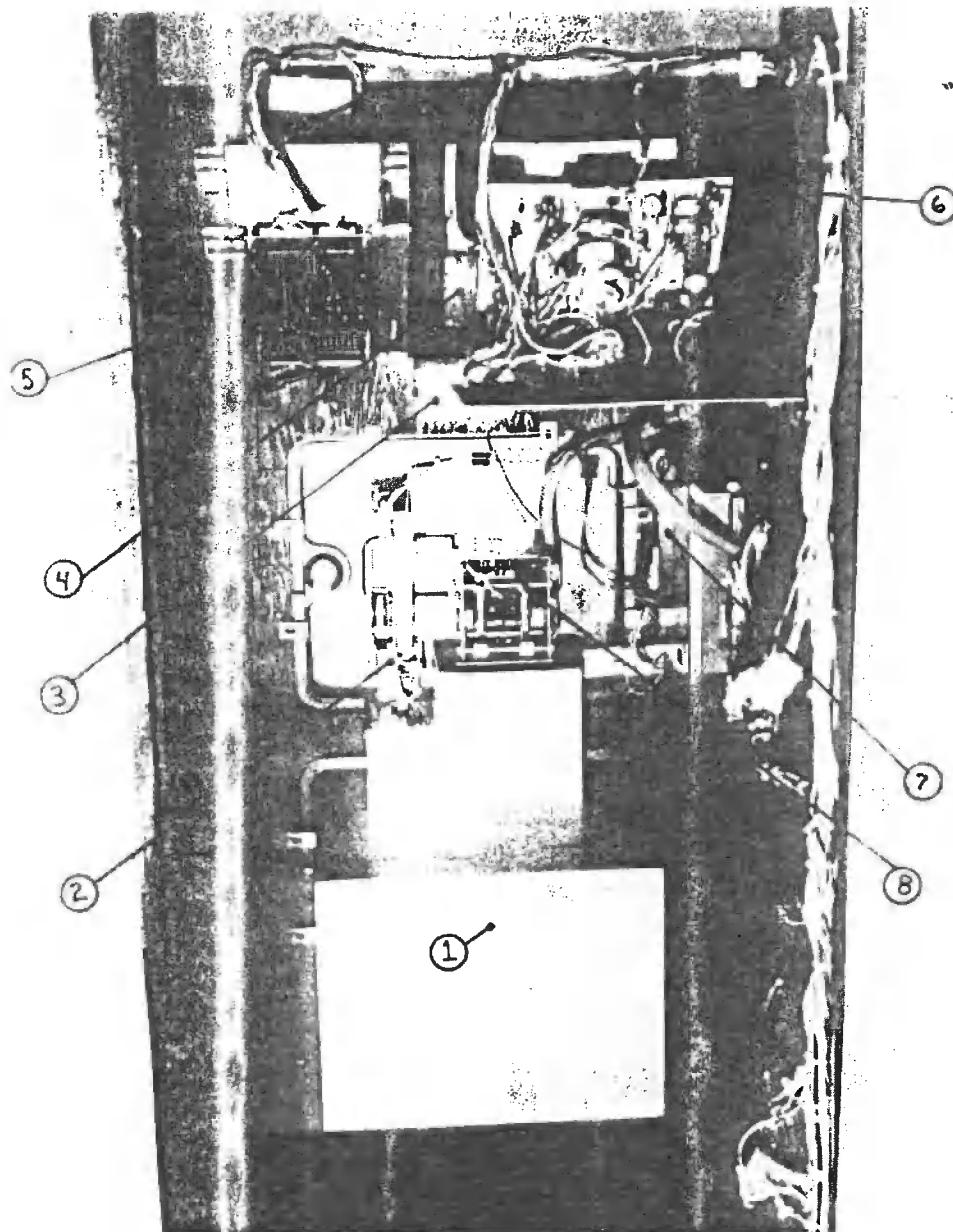
DETAIL	PART #	DESCRIPTION
1	1C-2507	03-1 BARRIER
2	4C-997	03-2 ACCESS DOOR
3	A-3016	03-3 SOLENOID LOCK ASSEMBLY
4	1A-2508	03-4 BRACKET
5	8A-160	03-5 SWITCH
6	8A-800	03-6 MAGNETIC REED SWITCH

**VIDEO VENDOR**  
REAR INTERIOR VIEW COMMAND CENTER-UPPER



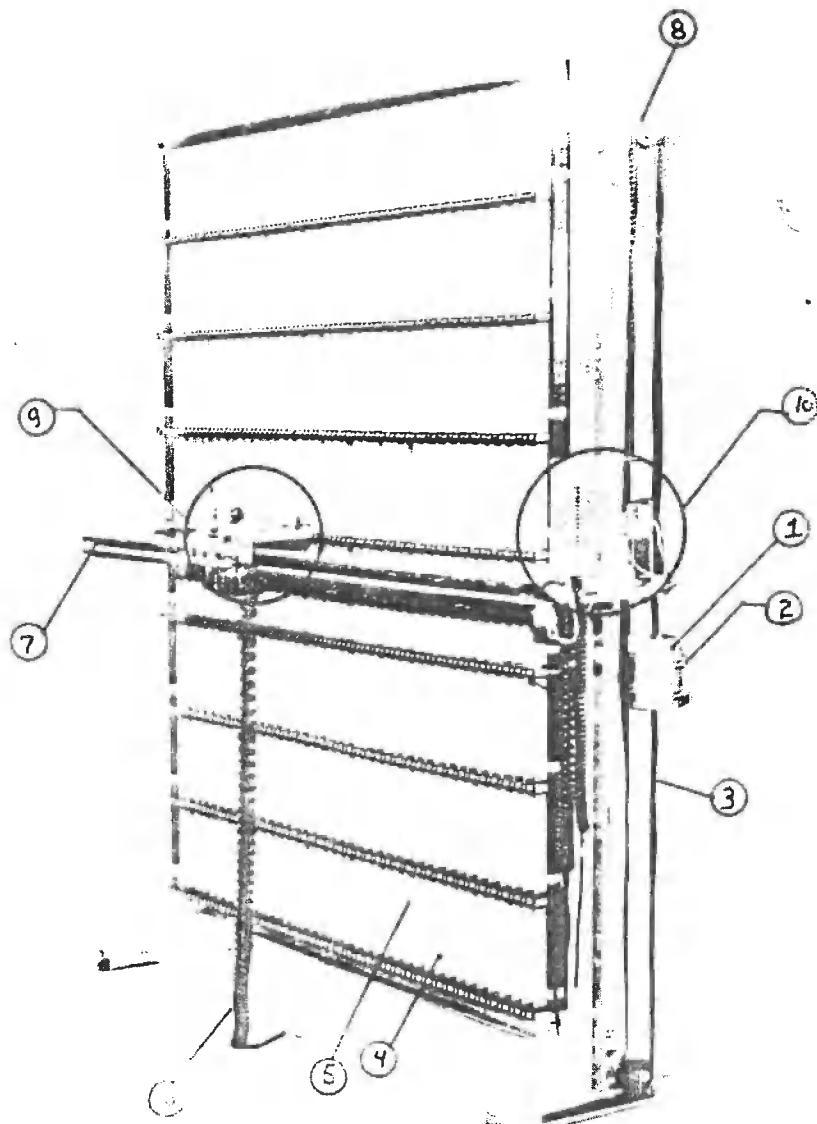
DETAIL	PART #	DESCRIPTION
1	13C-232	04-1 MARQUEE
2	8A-788	04-2 MAIN POWER SWITCH
3	A-2274	04-3 FLOURESCENT LAMP ASSEMBLY
4	A-3071	04-4 ALARM ASSEMBLY

**VIDEO VENDOR**  
REAR INTERIOR VIEW COMMAND CENTER-LOWER



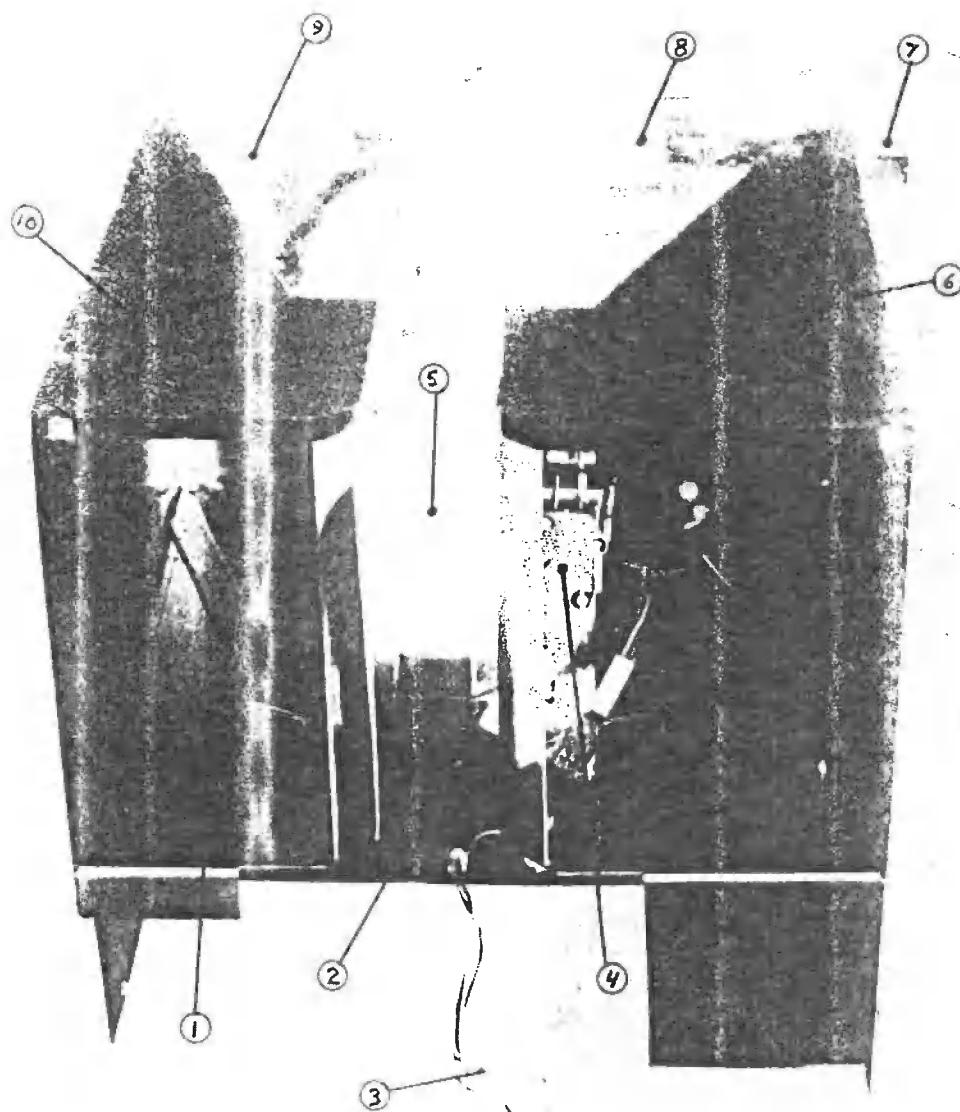
DETAIL	PART #	DESCRIPTION
1	A-2926	05-1 VAULT ASSEMBLY
2	05-2	05-2 COIN ACCEPTOR
3	B-3061	05-3 BODY DETECTOR
4	A-2949	05-4 KEYPAD
5	A-2955	05-5 PRINTER ASSEMBLY
6	B-3043	05-6 MONITOR
7	OBA	05-7 CONTROL UNIT
8	OBA	05-8 BILL VALIDATOR

**VIDEO VENDOR**  
**TAPE STORAGE RACK**



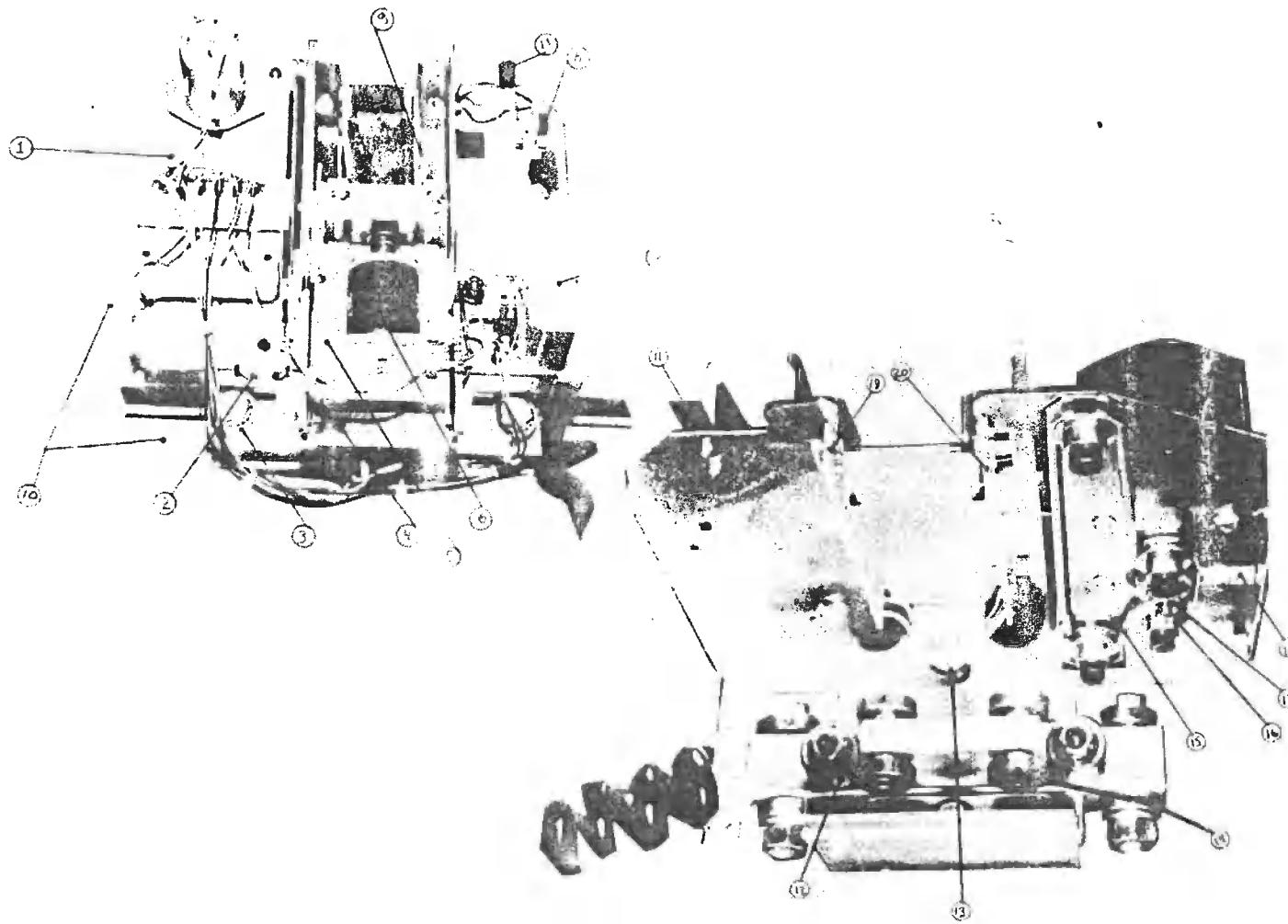
DETAIL	PART #	DESCRIPTION
1	27B-262	06-1 LEAD COUNTER WEIGHT
2	17B-256	06-2 CLAMP
3	A-3013	06-3 VERTICAL CHAIN ASSEMBLY
4	7A-167-1	06-4 FOAM STRIP
5	23C-253	06-5 SHELF DIVIDER
6	CAB-104	06-6 12 CONDUCTOR CABLE ASSEMBLY
7	1D-2470	06-7 HORIZONTAL CHANNEL
8	A-2937	06-8 IDLER SPROCKET
9		See page (8) for details
10		See page (9) for details

**VIDEO VENDOR**  
**VIDEO TAPE TRANSPORT COVER**



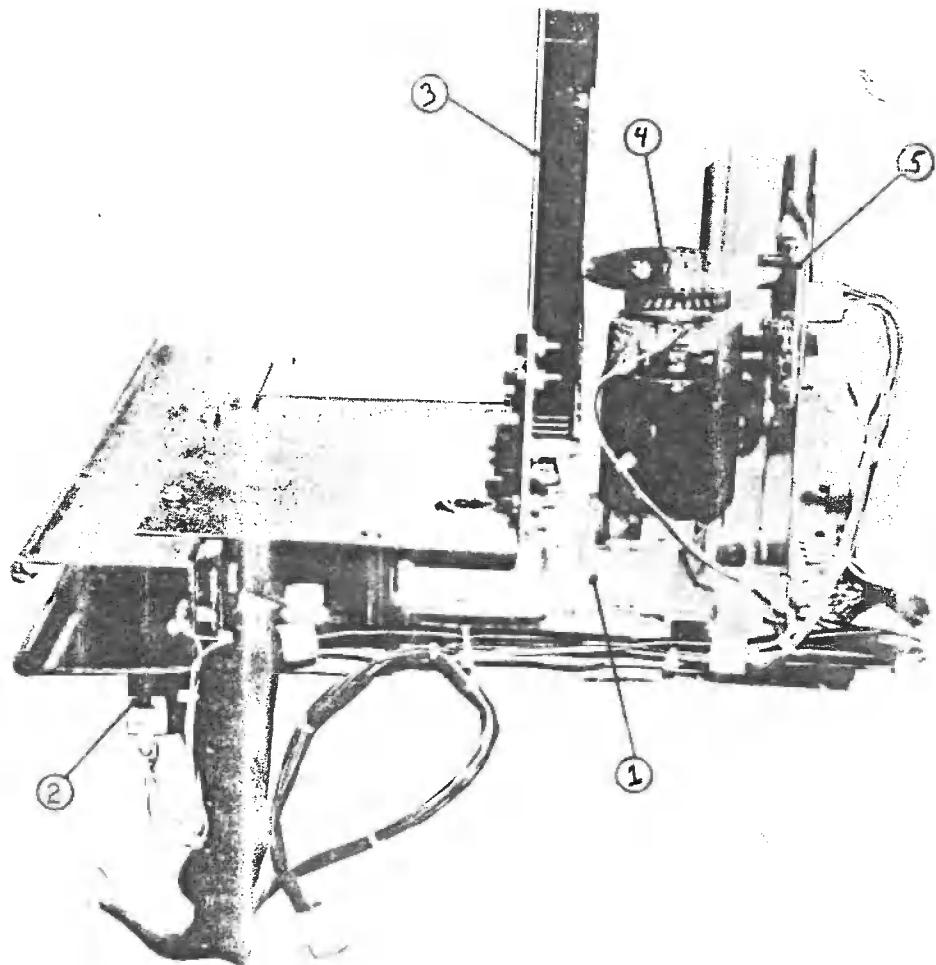
DETAIL	PART #	DESCRIPTION
1	A-3000	07-1 COMPLETE TAPE TRANSPORT COVER ASSEMBLY
2	A-3057	07-2 TAPE TOP SWITCH TRIPPER
3	CAB-108	07-3 T.I.W. CABLE
4	07-4	07-4 TAPE TOP SWITCH
5	8A-787	07-5 MEMBRANE SWITCH
6	4B-1000	07-6 LEFT COVER TOP DECAL
7	A-2990	07-7 MAGNET ASSEMBLY
8	4B-999	07-8 TAPE TRANSPORTER COVER TOP (LEFT)
9	4B-999-1	07-9 TAPE TRANSPORTER COVER TOP (RIGHT)
10	4B-1001	07-10 RIGHT COVER TOP DECAL

**VIDEO VENDOR**  
**TAPE TRANSPORT RETRIEVER AND TROLLY ASSEMBLY**



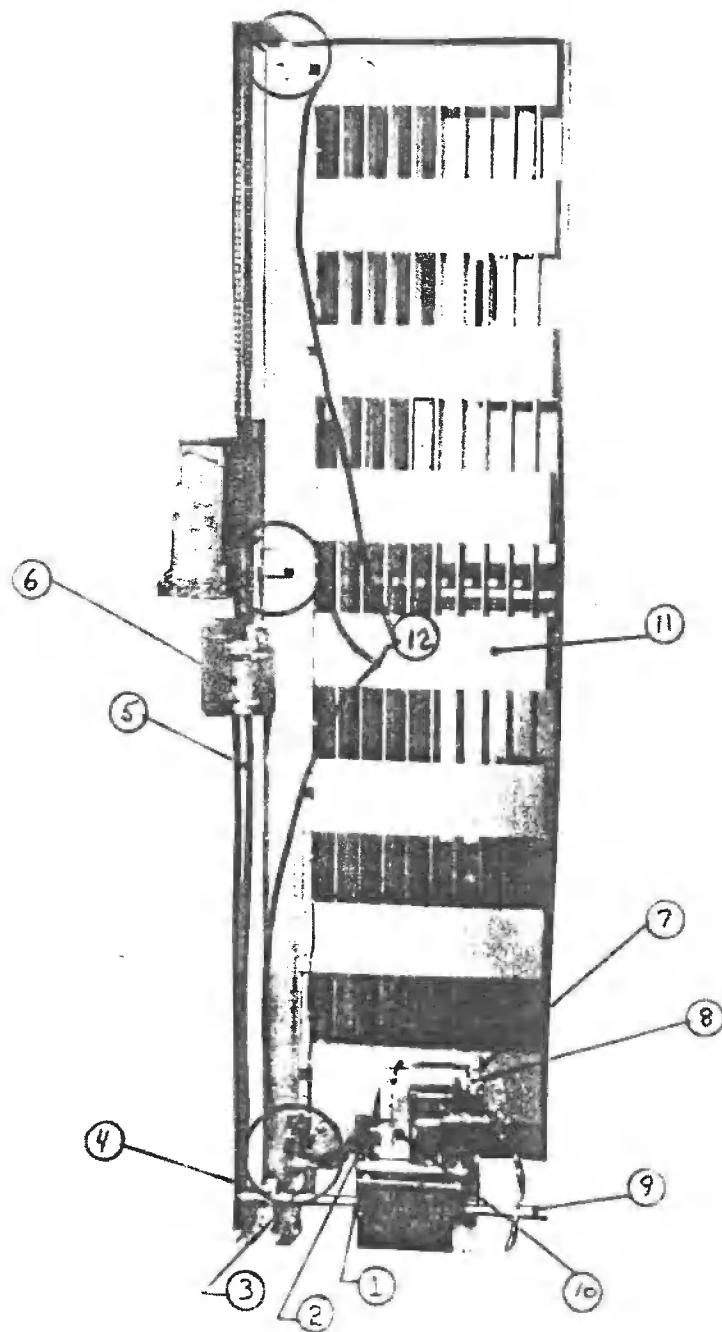
DETAIL	PART #	DESCRIPTION	
1	10B-11	08-1	GRABBER MOTOR
2	1B-2449	08-2	PULLEY GUARD
3	17B-181	08-3	BALL BEARING
4	2A-433	08-4	GUIDE ROLLER
5	1C-2471	08-5	SOLENOID GRABBER BASE
6	B-J28-2300	08-6	SOLENOID COIL ASSEMBLY
7	1B-2446	08-7	LIMIT SWITCH STOP BRACKET
8	8A-785	08-8	SWITCH
9	7A-164	08-9	CLAMP PAD
10	A-2960	08-10	COMPLETE RETRIEVER & TROLLY ASSEMBLY
11	4A-998	08-11	PLASTIC SWITCH INTERRUPTER
12	17A-258	08-12	CAM ROLLER BEARING
13	17A-181	08-13	BALL BEARING
14	A-2935	08-14	BUSHING AND BEARING ASSEMBLY
15	7A-166	08-15	RUBBER DRIVE BELT
16	2A-444	08-16	IDLER PULLEY
17	2A-443	08-17	MOTOR DRIVE PULLEY
18	1A-2545	08-18	BELT GUARD PROTECTOR
19	B-3054	08-19	EMITTER BOARD (TAPE POSITION)
20	B-3055	08-20	PHOTO-DETECTOR BOARD (TAPE POSITION)

**VIDEO VENDOR**  
LABEL READER AND TRANSPORT TROLLEY ASSEMBLY



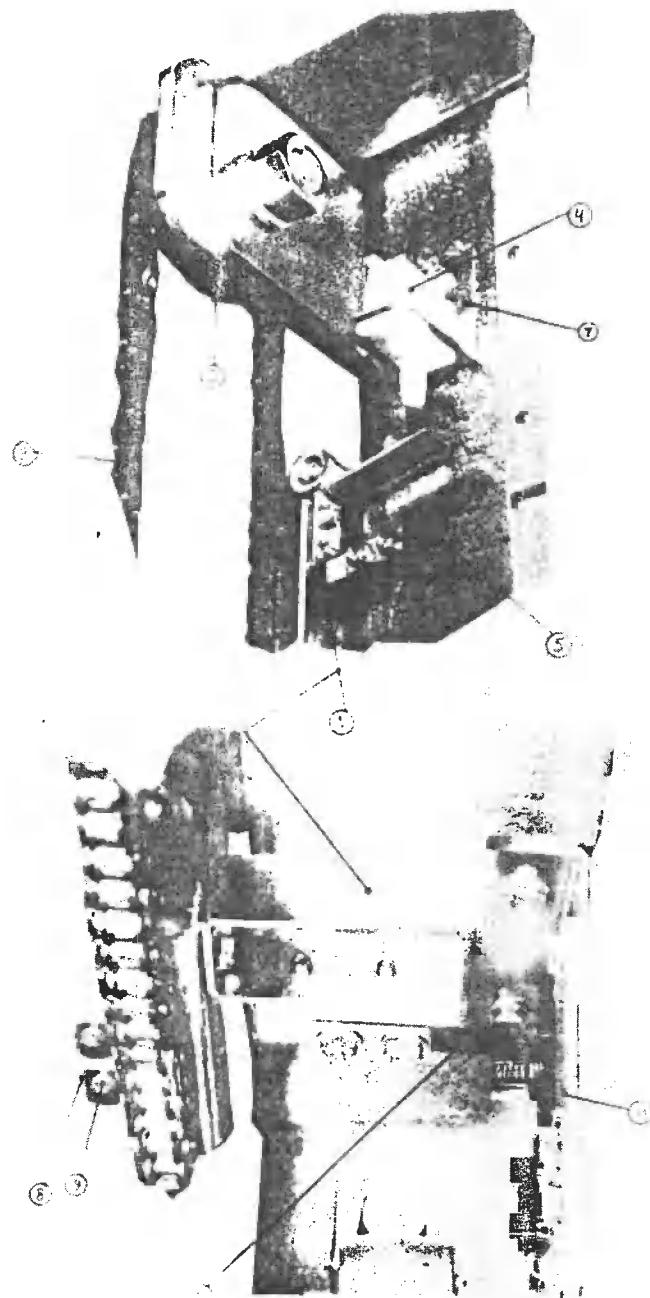
DETAIL	PART #	DESCRIPTION
1	10C-12	MAIN DRIVE MOTOR
2	8A-160	LIMIT SWITCH
3	A-2993	LABEL READER DECODER BOARD
4	A-2962	ENCODER DISC ASSEMBLY
5	A-2964	ENCODER BOARD

**VIDEO VENDOR**  
**REAR INTERIOR TAPE STORAGE RACK DRIVE ASSEMBLY**



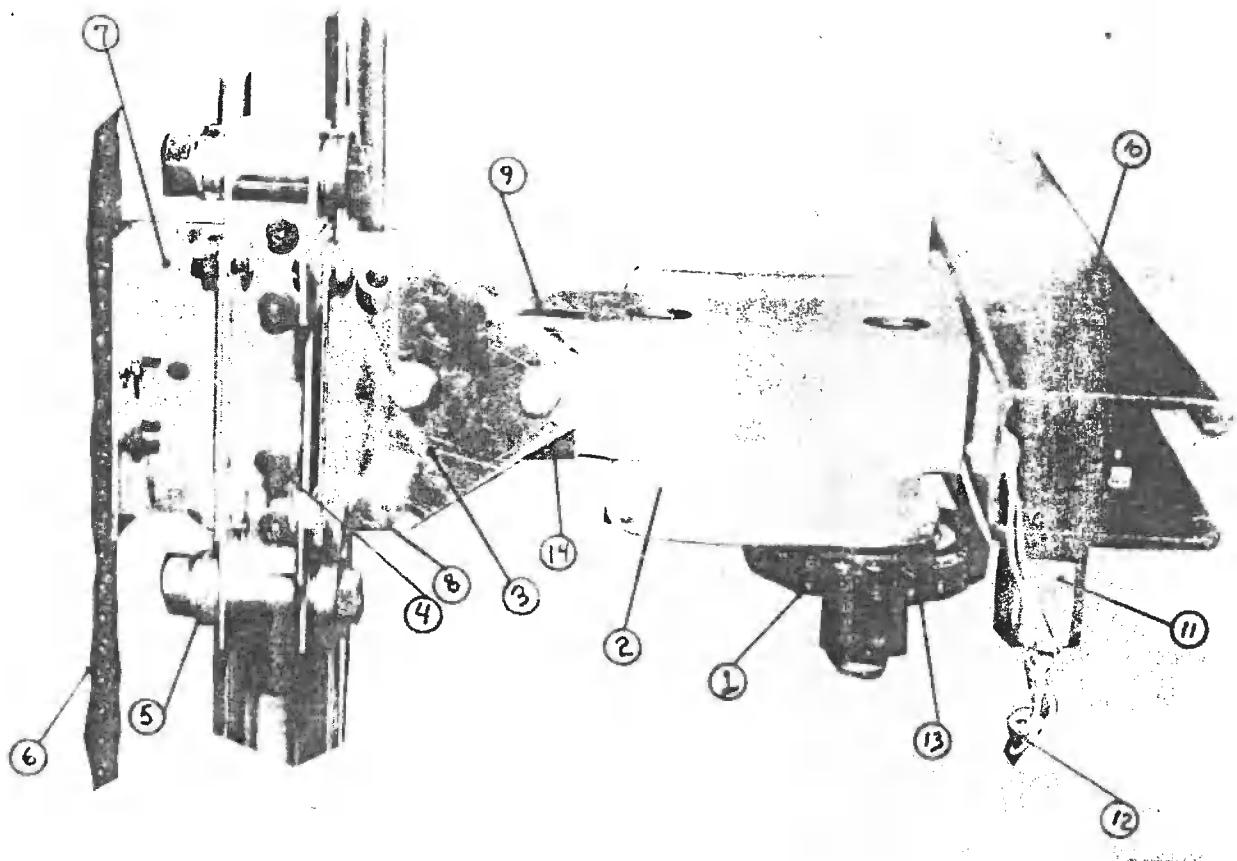
DETAIL	PART #	DESCRIPTION	
1	2B-447	10-1	LARGE DRIVE SPROCKET
2	A-3010	10-2	SHORT MOTOR VERTICAL DRIVE CHAIN
3	2A-445	10-3	DRIVE SPROCKET
4	B-3006	10-4	PILLOW BLOCK ASSEMBLY
5	A-3013	10-5	LONG VERTICAL DRIVE CHAIN
6	27B-262	10-6	LEAD COUNTER WEIGHT
7	A-2962	10-7	ENCODER DISC
8	2B-440	10-8	ENCODER HUB
9	2B-439	10-9	DRIVE SHAFT
10	10C-12	10-10	MAIN DRIVE MOTOR
11	23C-275	10-11	BACK PANEL TAPE STORAGE RACK
12		See page (11) for details	

**VIDEO VENDOR**  
**VERTICAL TRANSPORT DRIVE CHAIN ASSEMBLY**



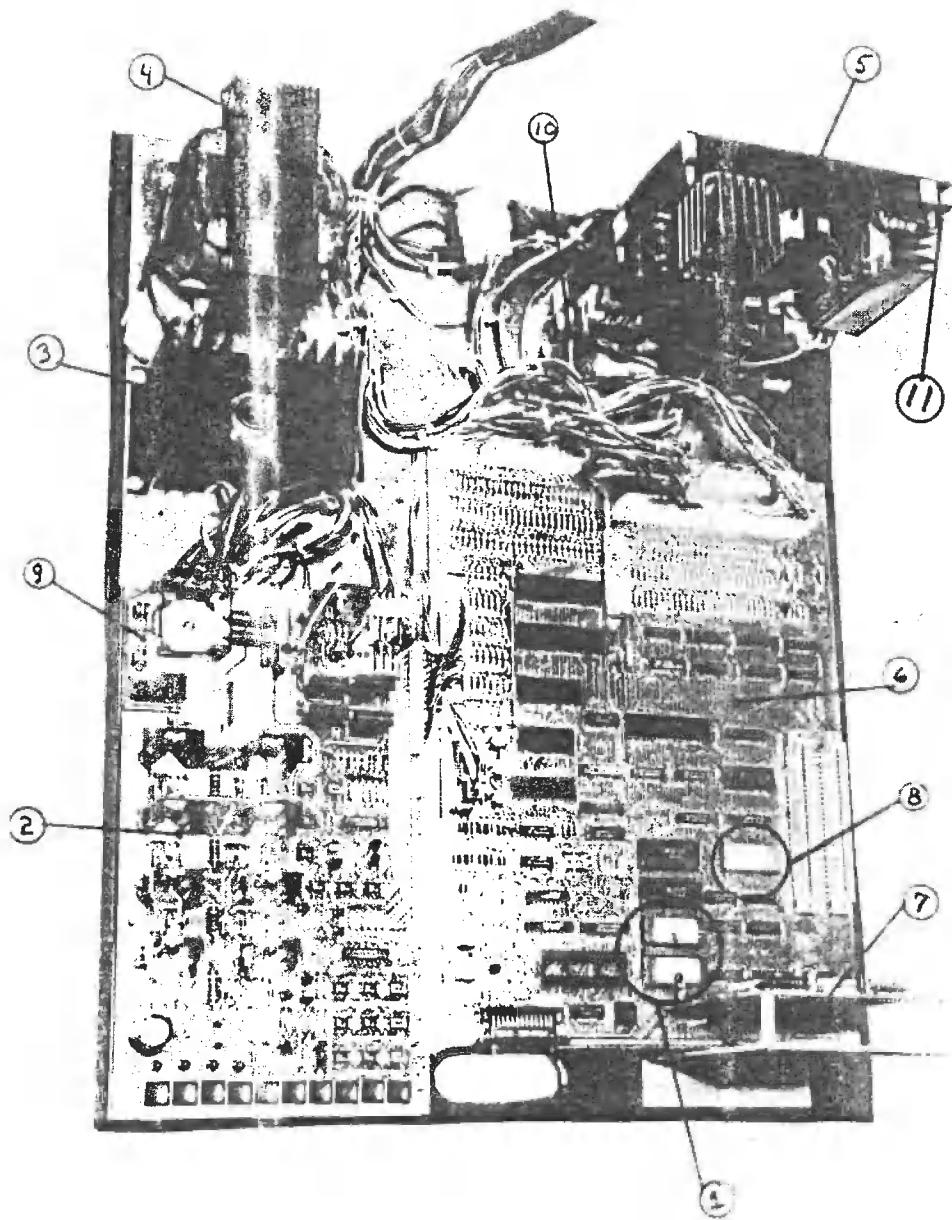
DETAIL	PART #	DESCRIPTION
1	1A-2437	11-1 LIMIT SWITCH STOP BRACKET
2	A-2937	11-2 IDLER SPROCKET
3	A-3013	11-3 VERTICAL CHAIN
4	8A-160	11-4 LIMIT SWITCH
5	4A-998	11-5 PLASTIC LIMIT SWITCH INTERRUPTER
6	A-2964	11-6 ENCODER BOARD
7	1B-2495	11-7 LIMIT SWITCH MOUNTING BRACKET
8	17A-243	11-8 CONNECTING LINK WITH SCREW HOLE
9	31B-112	11-9 SCREW FOR LIMIT SWITCH CHAIN BRACKET

**VIDEO VENDOR**  
**END DOOR VIEW - HORIZONTAL TRANSPORT CARRIER RAIL**



DETAIL	PART #	DESCRIPTION
1	A-2961	12-1 HORIZONTAL CHAIN
2	1C-2461	12-2 IDLER MOUNTING BRACKET
3	1A-2568	12-3 REINFORCEMENT PLATE
4	17A-247-1	12-4 SHOULDER BOLT
5	3A-240	12-4A BELLEVILLE SPRING WASHER
6	17A-181-1	12-5 BALL BEARING
7	A-3013	12-6 VERTICAL CHAIN ASSEMBLY
8	1B-2454	12-7 CHAIN ADJUSTMENT BRACKET
9	17B-257	12-8 CAM ROLLER
10	2A-669	12-8A SPACER
11	3A-133-25	12-8B SPLIT LOCKWASHER
12	32A-162	12-8C HEX NUT
13	1C-2462	12-9 LEFT SUPPORT CHANNEL
14	1D-2470	12-10 HORIZONTAL CHANNEL
	8A-160	12-11 LIMIT SWITCH
	CAD-102	12-12 HORIZONTAL MOTOR CABLE ASSEMBLY
	A-2937	12-13 IDLER SPROCKET
	1B-2453	12-14 ANGLE PLATE

**VIDEO VENDOR**  
**ELECTRONIC CONTROL PANEL**

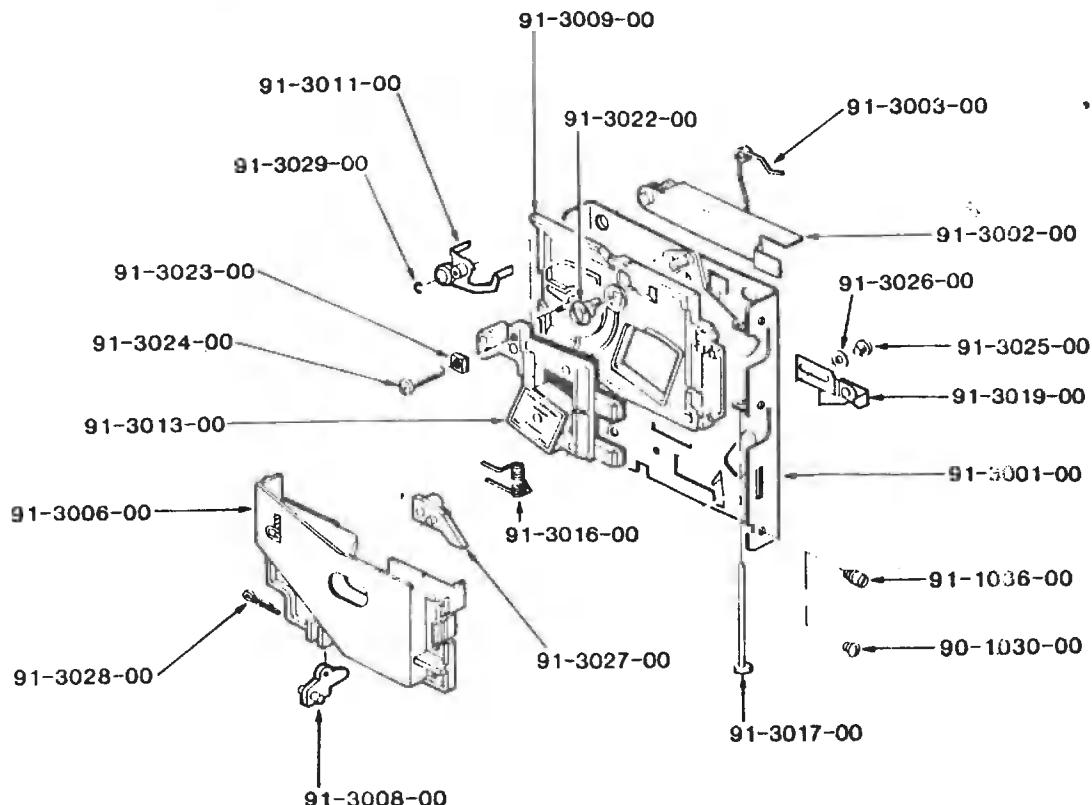


DETAIL	PART #	DESCRIPTION	
1	13-1	13-1	PROM 0 / PROM 1 PROGRAM CHIPS
2	B-3060	13-2	MOTOR CONTROLLER BOARD (MCB)
3	13-3	13-3	HEAT SINK ASSEMBLY
4	A-3069	13-4	TRANSFORMER
5	A-2927	13-5	POWER SUPPLY
6	B-3063	13-6	MICRO-PROCESSOR BOARD (MPB)
7	B-3070	13-7	BUBBLE MEMORY BOARD (BMB)
8	13-8	13-8	DISPLAY CHARACTER SET CHIP
9	8A-797-2	13-9	3 AMP SLO-BLO FUSE
10	13-10	13-10	2.5 AMP FUSE WITH PIGTAILS
11	8A-797-1	13-11	5 AMP FUSE- MAIN POWER

THE PARTS IN THIS SECTION ARE  
NOT NORMALLY AVAILABLE  
AS OFF THE SHELF ITEMS.

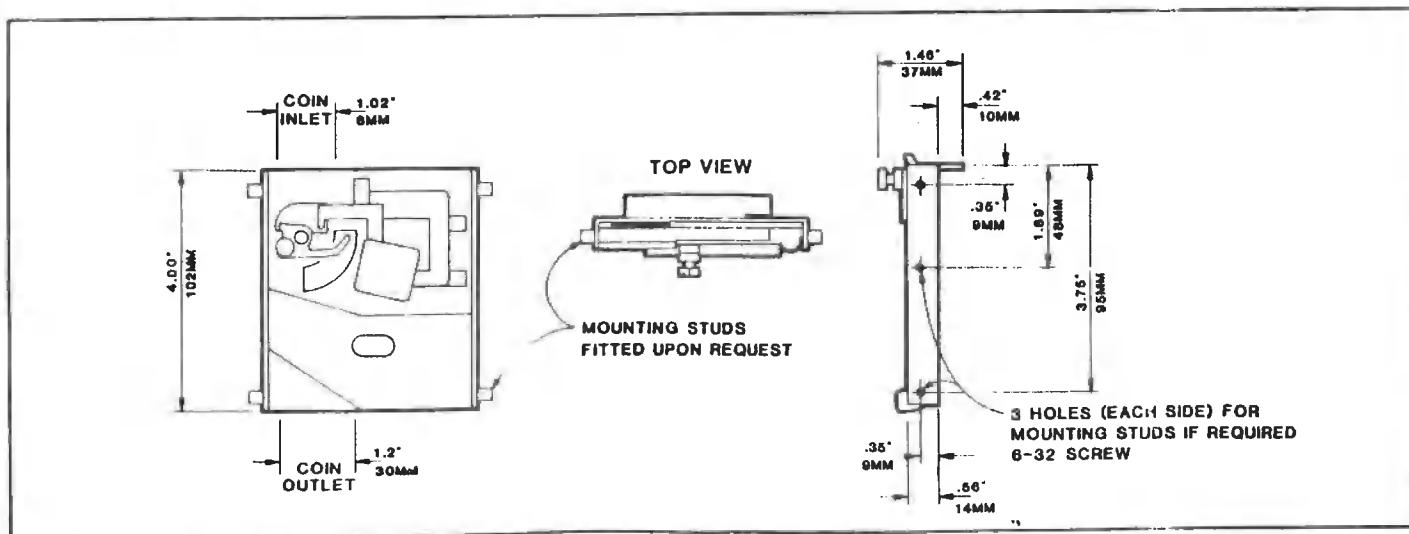
BUT FOR THOSE CUSTOMERS WHO WISH  
TO REPAIR SUB-ASSEMBLIES AND  
KEEP THEM FOR SPARES  
WE ARE MAKING THESE  
INDIVIDUAL PARTS AVAILABLE  
ON A 3-4 WEEK BASIS

# Engineering Data and Parts List



## PARTS LIST

90-1030-00	Retaining Screw	91-3009-00	Gate	91-3023-00	Nut-Magnet Holder
91-1036-00	Mounting Stud	91-3011-00	Cradle	91-3024-00	Screw-Magnet Holder
91-3001-00	Back Plate	91-3013-00	Magnet Holder with Magnet	91-3025-00	Screw-Separator
91-3002-00	Reject Lever	91-3016-00	Gate Spring	91-3025-00	Screw-Washer
91-3003-00	Reject Lever Sprint	91-3017-00	Gate Pin	91-3027-00	Anti-Stringing Device, Parallel
91-3006-00	Cover Plate With Divider	91-3019-00	Separator	91-3028-00	Cotter Pin for Anti-Stringing Device
91-3008-00	Anti-Stringing Device, Lateral	91-3022-00	Over Diameter	91-3029-00	E-Clip for Cradle



## THE MACHINE - THE ACTION

The usage of machines patterned after automatic teller machine is an evolutionary step in the video tape rental operation. The machine visibly displays all tapes available to rent and allows access only by:

1. Master Card or Visa. (other types of cards can be programmed for use upon request).
2. Especially assigned membership card.

Once the customer accesses the machine (5 seconds with a magnetic-strip card) a tape is selected by number with a standard key board. The customer then feeds in \$3.00 dollars (or whatever the cost whenever there are specials). A robotic arm is activated to get the tape and bring it to a transfer window. The customer has 15 minutes to inspect the tape cartridge and/or change their mind. If the tape is returned within the time frame (15 minutes), a credit is created and the customer may choose another tape (whenever he or she wishes).

When the customer returns the tape, the machine is again accessed, the return button is pressed and the tape is placed in the transfer window. The machine acknowledges the return, the robotic arm transfers it to the appropriate spot and the cassette is immediately available for re-rent.

If the tape is returned late, the computer monitor will give the renter the option to pay overdue charges then or when they rent the next tape. The customer cannot rent another tape until the charges are paid. In the event the customer does not pay the extra day charge in a reasonable time. The customer then is charged by way of billing their credit card direct.

The machine has an excellent history of mechanical performance. Most problems come within the first 5-15 days and can be traced to shipping or operator problems. It is constructed in modules so that an ill-performing section can be quickly replaced. It is self-diagnostic to reduce investigation time.

**THE COMPUTER:** The machine's computer is the latest State-Of-The-Arts in computing with a Bubble Memory for storing Data, and we do emphasize that the "bubble" memory easily survives loss of power, either from unplugging or general power failure, and should it happen the computer reactivated it self on line.

**MAINTENANCE:** We recommend for maintenance a trained maintenance person perform preventive maintenance full time by keeping the machine clean and lubricated, plus check with the store service desk for any VIDEO VENDOR related concerns. Machine service should be on a 24-hour, on-call basis.

## VIDEO VENDOR COMPUTER FUNCTIONS

The first menu displayed on the monitor in the Service Mode features the following functions:

1. Bookkeeping	11. System Options
2. Add Credits	12. Set area & Store Counts
3. Add Debits	13. Listings
4. Add Customers	14. Set Date & Time
5. Delete Customers	15. Adjust Counts
6. Set Tape Prices	16. Examine Controls
7. Hold Tape	17. Message Editor
8. Early Timer	18. Return Tape
9. X-Rating	19. Diagnostics
10. Customer/Tape Access	20. Bubble Utilities

### 1. BOOKKEEPING:

For Bookkeeping purposes

Pressing - 1 - generates the following options:

- A. Tape Register
- B. Customer Register
- C. Credit Card Register
- D. Studio Register
- E. Service Totals
- F. Invalid Tape Register

A. THE TAPE REGISTER contains the status of all tapes in the machine.

B. THE CUSTOMER REGISTER contains the customer financial status information.

C. THE CREDIT CARD REGISTER repeats the information contained in the customer register, except it also shows the complete credit card number with expiration date and tells you the "charge it" amounts which will be zeroed out with the bookkeeping, if you choose that option.

D. THE STUDIO REGISTER contains the rental activity for studio release tapes which we expect the studios will soon provide on a royalty basis.

E. THE SERVICE TOTALS are the status of the machine's financial performance since the last bookkeeping totals were zeroed. "Sales Period" includes the total amount of rentals and sales including amounts which were "charged".

D2-2-2

F. THE INVALID TAPE REGISTER contains all the locations where a tape has a label that was not readable and could not be rented.

### 2. ADD CREDITS

OR

### 3. ADD DEBITS

These two functions are very similar in operation. One adds credits and the other one adds debits. By selecting either one of these, you will be asked the account you wish to credit or debit.

#### 4. ADD CUSTOMERS

To add customers, you are asked to enter an eight-digit account number or to enter the number of the account you wish to add.

#### 5. DELETE CUSTOMERS

To delete a customer, the VENDOR will ask you for the account that you wish to delete. You enter the four-digit member account number and press -ENTER-.

#### 6. TAPE PRICES

1. Change rental prices
2. Change daily discount
3. Change sale price
4. Change extra-day charge
5. Set all rental price
6. Set all extra-day charges
7. Set all sale prices
8. Set days closed

The Tape Prices function is a separate sub-menu. You can (1) change a rental price on a specific tape, (2) change the daily discounts on all tapes, (3) change sales prices on a specific tape, (4) change the extra day charges on a specific tape, (5) change all rental prices, (6) change all extra day charges, (7) set all sale prices.

Option 8 allows you to shut off the late charges for any day of the week that the store will not be open for returns.

#### 7. HOLD TAPE

This function is used for tape slots that are not available for rentals or sales.

A slot location can be put on hold even when its tape is out. In this case, the tape can be returned but cannot be re-rented.

Enter the numbers that identify those slot locations and the machine will make them unavailable for the customer to access.

#### 8. EARLY TIMER

This function allows you to select the number of minutes that a tape is allowed to be out on rental and be returned for full credit. If the "Two-For" operation is on (main menu item #11 sub #3) no credits are given for early return.

EXAMPLE:

If you rent a tape at 12:00 and the timer is set for 15 minutes, you have until 12:15 to return the tape and receive full credit for the rental. If you return it after 12:15 no credit will be given. The timer can be changed from 0 to 255 minutes, maximum.

## 9. X-RATING

1. Change Tape Range
2. Change Customer Status

### A. Changing the Tape Range:

You are given the choice of carrying X-rated movies and being able to restrict their rental.

### B. Changing customer Status:

Additionally, each customer can be allowed or prohibited from renting X-rated tapes. This is done by changing a customer's X-rated status which is done on an individual account basis. You can thus limit the renting of X-rated movies to selected adult customers.

## 10. CUSTOMER/TAPE ACCESS

**D2-2-3**

### Sub Menu

1. Enter a three-digit number for tape
2. Enter a four-digit number for a customer
3. Enter a nine-, thirteen-, or sixteen-digit number for credit cards.

This section is the customer tape access screen. In this mode you can view the history and status of any account or tape in the machine. You can get the status of any customer account. It will show which tape he has out, if he has a credit balance, a past due balance, X-rating, total cash he has put into the machine, last date that he used the machine, and total credits. If a credit card was used, the card number and expiration date will also be displayed. For a tape status, it will show the current customer and/or the previous customer, the label code, the number of times the movie has been rented, the rental and extra-day price or sale price and the last day rented or returned.

To INVALIDATE A CREDIT CARD, that is, to put the credit card number on a "Bad List", enter the entire credit card number. If the machine does not find the number as being currently active, (open), it will tell you the "the number is not found". Press 1 to add the card number to the bad list.

## 11. SYSTEM OPTIONS

These are additional features:

1. Credit Card System
2. Two-for System
3. PIN # System

### 1. Credit Card System

The Credit Card System allows access to the Vendor via VISA and MASTERCARD.

2. Two-For System

The Two-for System allows rental of two tapes for one special price. When this mode is on, NO Early Return credit will be given. Also, no credit will be given if the machine malfunctions and fails to vend either movie. The entire machine will automatically be set to the SAME rental price for all SINGLE movie rentals.

3. Pin # System

PIN Numbers are Personal Identification Numbers used for additional registration with the owner/operator of the machine to identify customers. If you choose the PIN number option you will be asked:

12. SET AREA AND STORE CODE

Using this feature, you will set your "AREA-WIDE CODE:" A personal, RANDOM, three-digit number of your choice. DO NOT use your telephone area code.

13. LISTING

This feature gives you the various printouts that are available such as: The Tape Register, Customer Register, Studio Register, Service Totals, Invalid Tape List and Credit Card List. These are the same listings as in the bookkeeping mode. The difference between Bookkeeping and Listing is that these listings can be printed individually; whereas, in the Bookkeeping mode you get all the listings.

14. SET DATE AND TIME.

This feature is used to set the internal time clock of the VENDOR. It will ask for the "date". The format for this is:

ENTER NEW DATE  
FORMAT = MMDDYYYY (month-day-year)

15. ADJUSTMENT COUNTS

This sub menu is for adjusting the retriever. The numbers are set in the factory and should not need to be changed. These numbers are for the physical repositioning of the retriever assembly.

16. EXAMINE CONTROL #S

This feature is used to examine the control numbers on a Video Tape Label.

If there is a problem with a label on a tape, such as damage by a customer (creating a problem in returning the tape), you may enter the EXAMINE CONTROL # mode and insert the tape for a sample reading of the label.

## 17. MESSAGE EDITOR

This feature allows you to change numerous messages in the machine. The following messages are available:

1. The TITLE SCREEN MESSAGE: A one-line message displayed at the bottom of the screen in the box. It is a maximum of 62 characters long.
2. The RECEIPT MESSAGE: There are 2 message lines available located at the top of the Customer Receipt. These are each a maximum of 40 characters long.
3. The TRAILING MESSAGES: Up to 3 message lines may be printed at the end of Customer Receipt. They are each a maximum of 40 characters long.

## 18. RETURN TAPE

The return tape feature allows you to return a tape to the machine knowing only the tape slot location number. After selecting this feature, you are asked the tape location number. After entering the number, a receipt will be printed and the customer account is automatically updated.

## 19. DIAGNOSTICS

**IMPORTANT:** If the VENDOR is not behaving as it should, turn OFF power switch at fault. OPEN service door, REPOWER and the EXAMINE SWITCHES. The VENDOR will hold its position: A knowledge of which switches should be ON or OFF will usually answer the question "What's wrong?".

In the Diagnostic mode, the key pad is used to activate the indicated Vendor operations and the display Monitor, which is dynamic, is used to see the immediate results of the Vendor operations.

## 20. BUBBLE UTILITIES

### COPY BUBBLE UTILITIES

- 1- Main to Back Up
- 2- Message From Main to Back Up
- 3- Message From Back Up to Main

ENTER Selection \_\_\_\_\_

This option provides you with back up for your on-going business files. To run this option you need an additional Bubble Card and an Auxiliary Bubble Memory Extender Card ABM-1000. the Back Up Bubble is placed in the extender card and the extender is inserted into either one of the two standard buss slots on the MPB-1000 board. After installation, Power-up the Vendor, enter Service Feature "20" and option "1-Main to Back Up". Enter 1 and the Vendor will copy the main Memory to the Back Up Bubble. If you ever have a Main Memory failure, all you need to do is Power-down the machine, remove the Main Bubble and replace it with the Backup Bubble which should have all the current data.

There are two additional options for transferring message data which was created on an external source. Additional information will be available in upcoming Technical Bulletins.

VIDEO VENDOR  
INSTALLATION CHECK LIST

1. RECEIVE MACHINE AND UNCRATE.
2. INSPECT THE MACHINE FOR DAMAGE.
3. PLACE THE MACHINE IN THE VENDING LOCATION.
4. REMOVE THE KEY TAPED TO THE MONITOR AND OPEN THE CASH BOX DOOR WITH IT.
5. REMOVE THE OTHER DOOR KEYS FROM THE CASH BOX.
6. WITH THE PROPER KEY, UNLOCK AND OPEN THE LARGE, CLEAR PLASTIC (LEXAN) DOORS, IN FRONT OF THE MOVIE SLOTS. UNPLUG THE BOTTOM WIRE FROM THE WHITE SWITCH LOCATED JUST INSIDE THE DOORS APPROXIMATELY OPPOSITE THE KEY LOCK AND REPLUG THIS WIRE INTO THE EMPTY TAB IN THE BOTTOM OF THIS SWITCH. THIS WILL ENABLE THE TRANSPORT TO OPERATE EVEN WITH THE DOORS OPEN.
7. LOCATE THE TWO WOODEN BLOCKS IN THE INSIDE BOTTOM LEFT AND RIGHT OF THE CABINET.
8. OPEN THE REAR SERVICE DOOR AND REMOVE THE 120V AC POWER CORD. VISUALLY CHECK TO SEE IF THERE IS ANY DAMAGE OR LOOSE WIRES. IF EVERYTHING LOOKS OK YOU ARE NOW READY TO APPLY THE POWER.
9. INSERT THE POWER PLUG INTO A 120V AC SINGLE PHASE 60 HERTZ 15 AMP LINE.
10. TURN ON THE POWER BY USING THE POWER (TOGGLE) SWITCH LOCATED ON TOP OF THE VENDOR TOWARD THE RIGHT SIDE AS YOU FACE THE FRONT OF THE MACHINE.
11. AFTER A VERY SHORT DELAY THE SCREEN SHOULD DISPLAY THE VIDEO VENDOR LOGO.
12. UNLOCK AND OPEN THE SERVICE ACCESS (TOP) DOOR WHICH WILL PUT YOU IN THE SERVICE MODE OF OPERATION.
13. ENTER FEATURE 19, DIAGNOSTICS MODE.
14. IN DIAGNOSTICS MODE, TEST ALL OF THE FOLLOWING ITEMS:
  - A. Y UP, KEY 8
  - B. Y DOWN, KEY 2
  - C. X LEFT, KEY 4
  - D. X RIGHT, KEY 6USING KEYS 2, 4, 6, AND 8, LINE UP THE ROBOTIC ARM AND HOPPER IN FRONT OF MOVIE SLOT NUMBER 150 AND TEST THE FOLLOWING KEYS:
  - E. Z IN, KEY 7
  - F. GRABBER, KEY 3

6. Z OUT, KEY 9
- H. LIFT THE ACCESS DOOR SLIGHTLY FROM THE FRONT AND CHECK THE RESPONSE...ACCESS DOOR, YES/NO
- I. CHECK THE BODY SENSOR BY STANDING IN FRONT OF THE MACHINE AND MOVING TOWARD IT IN THE MANNER OF A CUSTOMER APPROACHING IT FOR VENDING....BODY SENSOR, YES/NO
- J. DOLLAR BILL ACCEPTOR, PRESS THE MONEY KEY (ARROW)...LISTEN FOR A CLICK AND PUT A SINGLE, THEN A FIVE DOLLAR BILL IN THE MONEY ACCEPTER. WATCH THE BILL PULSE ON THE SCREEN. DO THE SAME WITH THE COIN PULSE THIS TIME USING QUARTERS.
- K. TEST THE BEEPER, KEY 0
- L. TEST THE PRINTER, KEY 5
- M. USING KEY 8 RUN THE ROBOTIC ARM UP TO THE ACCESS DOOR. PUT A MOVIE CASSETTE IN THE HOPPER AND CHECK THE FOLLOWING SWITCHES:  
TAPE TOP, YES/NO  
TAPE WRONG, YES/NO  
TAPE FRONT, YES/NO  
TAPE BACK, YES/NO
- N. CHECK THE CREDIT CARD READER BY RUNNING A CREDIT CARD THROUGH THE READER. OBSERVE THE DISPLAY ON THE MONITOR. THE CREDIT CARD NUMBER AND EXPIRATION DATE SHOULD BE DISPLAYED.
- O. REPLACE THE WIRE ON THE BOTTOM OF THE SWITCH INSIDE THE (LEXAN) DOORS BACK TO ITS ORIGINAL TAB. THIS WILL ENABLE THE TRANSPORT TO OPERATE WITH THE DOORS CLOSED AND LOCKED. THEN CLOSE AND LOCK THE LEXAN DOORS.

15. ENTER SERVICE FEATURE 16, EXAMINE CONTROL. THE ROBOTIC ARM WILL POSITION ITSELF IN FRONT OF THE ACCESS DOOR AND ASK THAT A MOVIE CASSETTE BE PLACED IN THE HOPPER. PUT A CASSETTE IN THE HOPPER, MAKE SURE THE CASSETTE HAS THE SILVER CODE LABLE ON IT, AND THE VENDOR WILL READ IT AND DISPLAY THE CODE NUMBER AND A DIAGRAM OF THE LABEL ON THE MONITOR. TAKE THE CASSETTE OUT OF THE HOPPER AND COMPARE THE LABEL TO THE DIAGRAM DISPLAYED ON THE MONITOR.

16. INSERT MOVIES IN SHELF SLOTS, BEING CAREFUL NOT TO PUSH TOO FAR BACK. EDGE OF MOVIE MUST BE FLUSH WITH EDGE OF SHELF. EDGE OF CODE LABEL MUST BE POINTING UPWARD AND MOVIE TITLE MUST BE READABLE THROUGH CLEAR LEXAN DOORS.

17. TEST THE RENTAL AND RETURN OPERATIONS BY ACTUALLY RENTING ABOUT 3 MOVIES ON EACH SHELF FROM THE LEFT SIDE, CENTER AND RIGHT SIDE OF EACH SHELF.

18. PRACTICE CHANGING THE PRINTER PAPER. DETAILS ARE FOUND ON THE BOTTOM OF PAGE 5 OF THE OWNERS MANUAL.

VIDEO VENDOR

SET UP INSTRUCTIONS

REFER TO OWNERS MANUAL FOR DETAILED EXPLANATION OF ALL SERVICE FEATURES AND ALSO "HELPFUL HINTS".

1. PUT CODE LABELS ON MOVIES.
2. LOAD SECTION TITLE IDENTIFIERS (IF ANY) (IE:COMEDY, DRAMA, ETC.)
3. WRITE SLOT LOCATION NUMBERS ON EACH MOVIE CASSETTE AND LOAD THE MOVIES INTO THE SLOTS.
4. TURN ON SERVICE MODE BY OPENING TOP SERVICE DOOR.
5. CHECK AND IF NECESSARY SET THE DATE AND TIME, SERVICE FEATURE #14.
6. SET THE ARE AND STORE CODE, SERVICE FEATURE #12. NOTE: YOUR ACCESS CODE # IS 3125551212.
7. CREATE 100 RANDOM MEMBER NUMBERS AND ANY SPECIFIC ACCOUNT NUMBERS YOU DESIRE, SERVICE FEATURE #4.
8. SET PRICES FOR SLOT NUMBERS, FEATURE #6. WE SUGGEST YOU FIRST SET "ALL RENTAL PRICES" SUB #5, THEN SET "ALL EXTRA DAY CHARGES" SUB #6, THEN IF NECESSARY SET SPECIFIC SLOT RENTAL PRICES USING SUB #1, THEN SET SPECIFIC EXTRA DAY CHARGES USING SUB #4, THEN IF YOU HAVE ANY SALE ITEMS IN THE MACHINE SET THE SALE PRICES USING SUB #3, AND FINALLY IF YOU'RE GOING TO HAVE DIFFERENT PRICES FOR DIFFERENT DAYS OF THE WEEK SET THESE DISCOUNTS USING SUB #2.  
  
NOTE: WHEN ENTERING PRICES YOU MUST ENTER THE CENTS (NO DECIMAL POINT) I.E.: \$2.00 = 200, \$2.50 = 250, ETC.
9. ANYTIME YOU SET PRICES, EITHER SALE, RENTAL, OR EXTRA DAY, FOR "ALL" YOU HAVE OVERRIDDEN ALL PRICES FOR ALL SLOTS.
10. IF YOU HAVE SECTION TITLE SLOTS OR SLOTS THAT ARE BEING LEFT EMPTY DELIBERATELY THEN USE SERVICE FEATURE #7 TO LOCK OUT THESE SLOTS. BE SURE THAT WHEN YOU PUT MOVIES IN THESE SLOTS FOR RENTAL OR SALE THAT YOU FIRST UNLOCK THESE SLOTS.
11. ENTER SERVICE FEATURE #11. DECIDE WHETHER YOU WILL ALLOW CREDIT CARDS TO BE USED, IF SO; WILL YOU USE PIN NUMBERS, WHAT WILL BE THE MINIMUM AMOUNT OF MONEY YOU WILL ALLOW TO BE CHARGED, CAN CREDIT CARD CUSTOMERS RENT X RATED MOVIES...USE SUB #1 FOR

ALL THESE DECISIONS.

WILL YOU BE CHARGING EXTRA DAY FEES ON SATURDAY AND SUNDAY? IF NOT TURN ON SUB #2.

DO YOU WANT TO RENT TWO MOVIES FOR A SPECIAL PRICE? CAUTION: IF YOU USE THIS FEATURE, THERE ARE NO CREDITS ALLOWED FOR EARLY RETURNS AND THE PRICES ENTERED HERE FOR BOTH SINGLE AND TWO MOVIE RENTALS OVERRIDES ALL THE PRICES WHICH MAY HAVE BEEN SET IN THE SET PRICES FEATURE. IF YOU WANT THE TWO FOR SYSTEM ON USE SUB #3.

12. IF YOU WANT TO ALLOW CREDIT FOR EARLY RETURNS USE SERVICE FEATURE #8.
13. TO CHANGE THE MESSAGE DISPLAYED AT THE BOTTOM OF THE MONITOR OR PRINT MESSAGES ON THE RECEIPT TAPE USE FEATURE #18.
14. CHECK THE BODY SENSOR AND MAKE SURE IT IS ADJUSTED PROPERLY.
15. TEST THE MACHINE BY PRETENDING YOU ARE A VARIETY OF CUSTOMERS AND RENT AND RETURN MOVIES BY MEMBER NUMBER, CREDIT CARD, ETC.



## INSTALLATION OF THE LARGE PAPER ROLL

1. Go behind the machine and and remove the Back Door to the Command Center.
2. Measure and mark a point 12" up from shelf **(A)** and 8" from the inside of door ledge **(B)** (See FIG. 1).
3. The clampite collar without the attached Allen wrench should be tightened on the bracket's shaft 1 1/2" from its base as shown in FIG. 2. (You can use the long end of the wrench attached to the other collar.) If this is already installed skip to step #6.
4. Align template (FIG. 3) as shown in FIG. 1 and use a centerpunch to mark screw positions on the cabinet wall.
5. Position the bracket over those marks and attach it with the enclosed self-tapping hex screws.
6. Next, place one of the washers on the shaft followed by the large roll of paper (NOTE: Install roll so that paper feeds from BOTTOM of roll as in FIG. 4) followed by the second washer.
7. Install the collar with the Allen wrench attached so that the long end of the Allen wrench is facing AWAY from the paper. Push the collar up against the paper and tighten it with the wrench at the top of the collar.
8. Open the Coin Door, loosen the slide latches and remove the Command Center Control Plate.
9. Lift the flat, metal paperweight and remove the receipt paper roll. Install a full roll of paper with the end taped down. (This will act as an idler guide roll.)
10. Now, feed large roll paper OVER the small paper roll and through printer until 6-8" of paper is exposed in front.
11. Lower the flat paperweight against the receipt paper.
12. Insert paper through the slot guides on the Control Plate and return control plate to its proper position.
13. Secure Control Plate with slide latches and close Coin Door to resume rental mode of operation.

FIG. 1

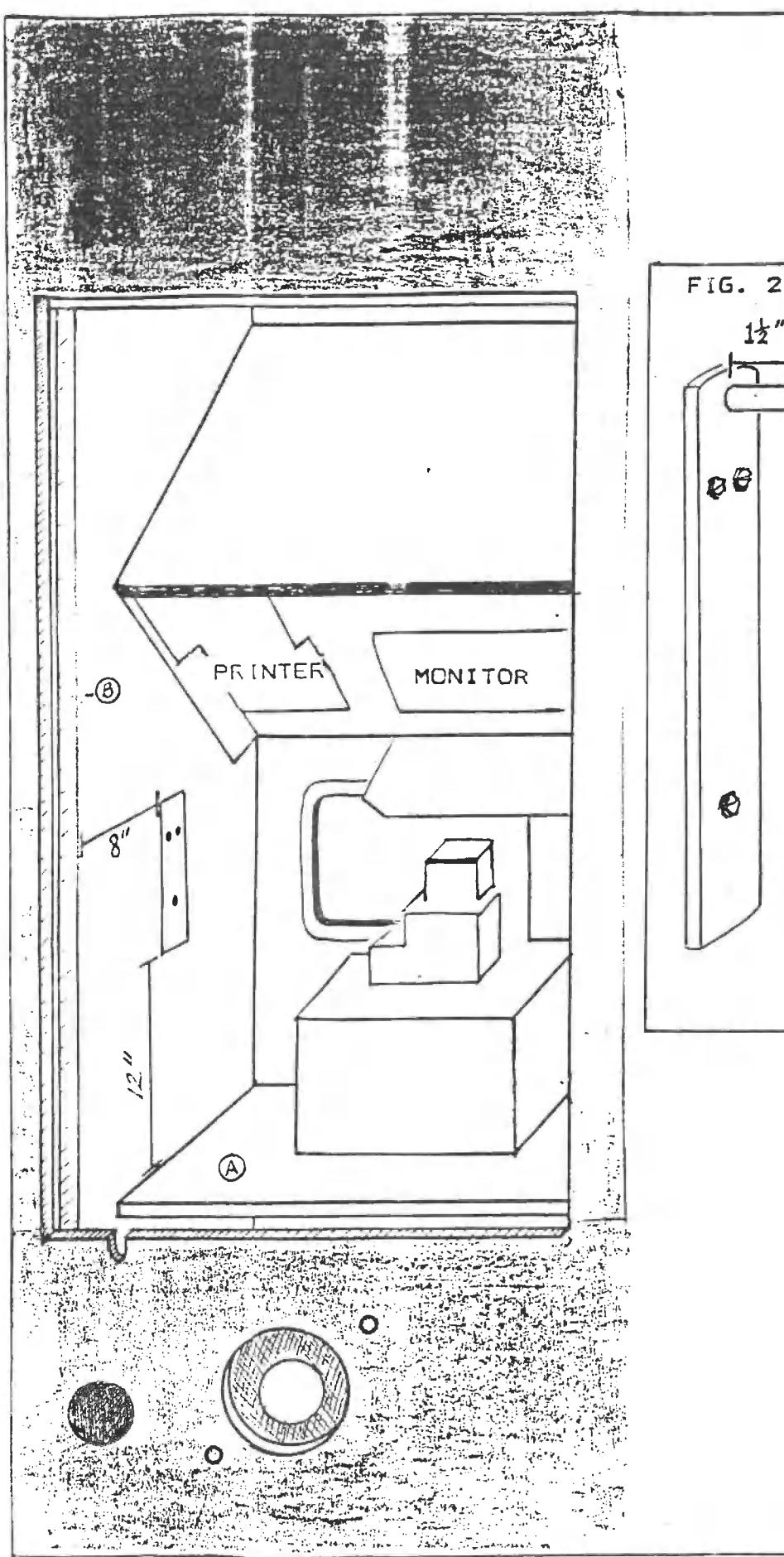


FIG. 2

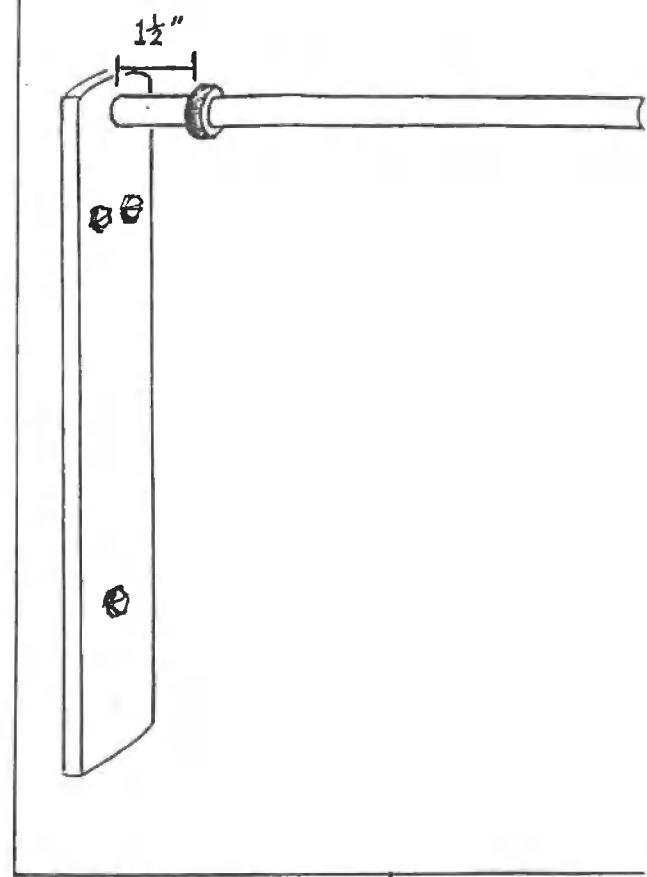


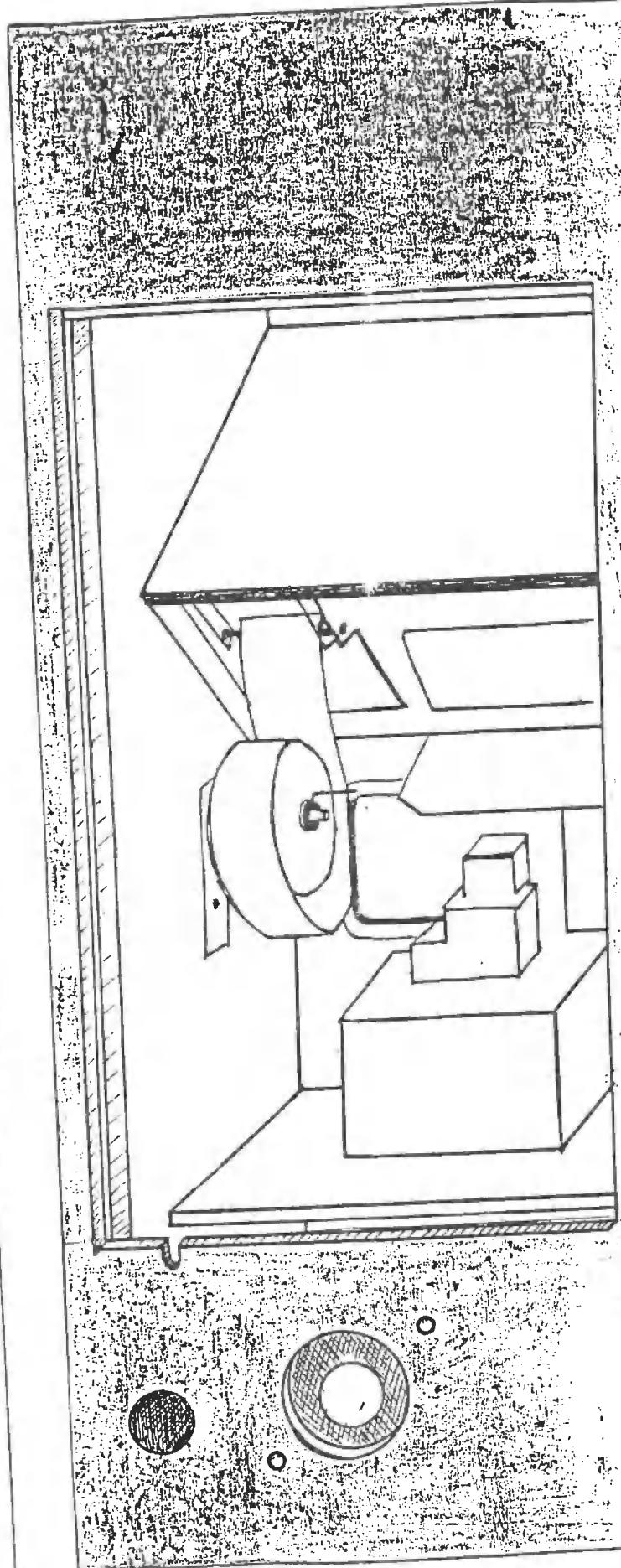
FIG. 3

TEMPLATE

TOP



FIG. 4



FEBRUARY 24, 1988

## ERROR CODE CHART

**NOTE: ON ERROR "99" YOU WILL SEE A PRINTOUT OF A SERIES OF NUMBERS, ONLY THE NUMBERS FROM 150-161 INDICATE ERRORS YOU CAN DEAL WITH. THE OTHER NUMBERS ARE A SOFTWARE TRACE WHICH WILL HELP US TO SEE JUST WHAT COURSE THE COMPUTER TOOK TO ARRIVE AT THE PERCIEVED ERROR.**

**150 TIMER ERROR**

This error code will show up whenever the computer expects the transport to move and it does not.

- Ex. 1) Belt came off retriever and you do not have a "Grabber Out", see Code 160.
- 2) Blown Fuse.
- 3) Interlock on door not restored to correct position or it is defective.

**151 LAST TRANSACTION**

May indicate a tape in the transport and the computer does not know where to put it.

**152 TAPE ABOVE 320**

These codes SHOULD NEVER OCCUR, if they do, call for assistance.

**153 LABEL CODE TOO HIGH**

Tape Back infra-red sensor not blocked by tape when it should be.

**155 TAPE FRONT**

Tape Front infra-red sensor not blocked by tape when it should be.

**156 TAPE TOP**

Tape Top infra-red sensor not blocked by tape when it should be.

**157 X-HOME**

These codes refer to the -Home read. They would also show up on a blown fuse or any defect which would not allow the normal X-Home or Y-Home function to occur, ie. a problem with the interrupter which goes through the respective X- or Y- encoder, or the card is defective. See Service Bulletin #7.

**158 Y-HOME**

The retriever did not push the front limit switch in when it went forward to get a tape, causing the system to go into Error 99. See Service Bulletin #21.

**159 GRABBER IN**

The retriever did not push the rear limit switch when it came back, and the system went into Error 99.

**160 GRABBER OUT**

Indicates a failure of the Tape Wrong Plate. See Service Bulletin #23 for adjustment.

**161 TAPE WRONG**

# VIDEO VENDOR

4235 MAIN STREET **Service Department**  
SKOKIE, IL. 60076

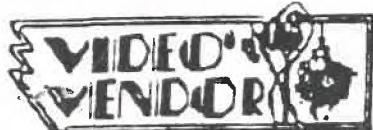
312-982-0440

# Technical Service Bulletin

Of Interest  General Manager  Sales Manager  Service Manager  Parts Manager  Service Technicians

1/21/86

We are reccomending that you periodically clean the vertical support rails and horizontal transport rail [ (10) page 12 of the parts manual ] of any loose flaking or chipped galvanized coating in the area where the roller bearings run on the rails. Lightly sand down if particularly rough. Oil rails with light ( 20 weight) machine oil to avoid corrosion, then wipe off excess. Use "WD 40" and spray all bearings, see [ page (12) and page (8) of the parts manual ]. Future follow-up maintenance should be done a couple times a month or as needed by using a good, light machine oil for both the bearings and rails.



4235 w. Main st. Skokie, Illinois 60076 (312) 982-0440

MAY 4, 1988

## INSTALLATION INSTRUCTIONS FOR CONVERTING 2-CHIP PROCESSOR BOARDS TO 3-CHIP BOARDS

**CAUTION:** Only an experienced person who knows how to solder should do this. If you do not know how to solder, DO NOT attempt this procedure. You may wish to exchange your current board for a 3-chip board. Call Video Vendor for details.

*Please READ THE ENTIRE PROCEDURE BEFORE BEGINNING.*

**CAUTION: READ THE PINK HANDLING OF MEMORY DEVICES BULLETIN BEFORE BEGINNING.**

1. Power OFF and OPEN Electronics drawer.
2. REMOVE Bubble Card and place it on a piece of aluminum foil. Wrap over edges to protect the card from static discharge from main processor board.
3. DISCONNECT J2, J3, J4, J5, J6, J7 and J8 cable connectors.
4. REMOVE Main Processor Board (MPB-1000) by removing its screws. Some boards are not mounted with screws but use plastic standoffs; on those boards you should push the retaining barb in then lift off that corner. Repeat on all the other barbs until the board is free.
5. *Changing the Jumpers on MPB-1000.*
  - a. LOCATE W6 and W8 jumpers on MPB-1000.  
See FIG 1, detail A.
  - b. UNSOLDER both ends of the W6 jumper wire, holding it firmly with long nosed pliers and carefully pull it up and out of W6.
  - c. INSERT the wire into W7 as shown in detail B, and SOLDER in place. Solder on both sides of the board.
  - d. REPEAT the procedure in step 5b for the jumper at W8 to remove its wire.
  - e. INSERT and SOLDER the wire into W9 as shown in detail B.
6. CAREFULLY, REMOVE old PROM 0 location U3 and REPLACE it with Version 3 PROM 0.
7. CAREFULLY, REMOVE old PROM 1 location U9 and REPLACE it with Version 3 PROM 1.
8. CAREFULLY, REMOVE 1st 24-pin 2K RAM chip (next to PROM 1) location U13 and REPLACE it with Version 3, PROM 2.
9. CAREFULLY, REMOVE 2nd 24-pin 2K RAM chip location U19 and REPLACE it with the 28-pin 8K RAM Memory chip. See FIG 2.
10. REINSTALL MPB-1000 corner screws, J-connectors and Bubble Card.
11. CLOSE door and power ON.

If the Vendor powers up and acts normally, you have accomplished the change-over correctly. errors, blank screen or any abnormal operation, can indicate that a chip is not installed correctly. Power down and recheck connections and proms. Power up. If problem persists, power down and call.



ONLY VIDEO VENDOR VIDEO CASSETTE VENDING MACHINES  
OFFER YOU ALL THESE SAFEGUARDS ...

**PATENTS ISSUED**

THIS IS YOUR ASSURANCE THAT YOUR INVESTMENT IS PROTECTED  
AGAINST INFRINGEMENT CLAIMS UNDER THESE PATENTS  
U.S. PATENT #4,598,810 PROVIDES 27 CLAIMS COVERING METHODS OF  
AUTOMATICALLY DISPENSING, RETURNING AND RE-DISPENSING ARTICLES.

CANADIAN PATENT #1,226,856 - PROVIDES 36 CLAIMS COVERING METHODS OF  
AUTOMATICALLY DISPENSING, RETURNING, AND RE-DISPENSING ARTICLES.

U.S. PATENT #4,789,054 - PROVIDES 4 ADDITIONAL CLAIMS COVERING MEANS  
FOR IDENTIFYING ARTICLES AND PATRONS. OVER 30 OTHER PATENTS PENDING  
THROUGHOUT THE WORLD.

**UNDERWRITERS LABORATORIES<sup>®</sup> LISTED**

VIDEO VENDOR MACHINES HAVE MET THE REQUIREMENTS TO BE ELIGIBLE FOR  
LISTING AND FOLLOW UP SERIES BY UNDERWRITERS LABORATORIES<sup>®</sup> AND  
CARRY THE U/L<sup>®</sup> LISTING MARK.

**FEDERAL COMMUNICATIONS COMMISSION TESTED**

VIDEO VENDOR MACHINES HAVE MET THE RADIO INTERFERENCE EMISSION  
REQUIREMENT OF THE FEDERAL COMMUNICATIONS COMMISSION (FCC)  
"RULES AND REGULATIONS" PART 15, SUBPART J FOR CLASS A EQUIPMENT.

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MACHINES OFFER ALL OF THE ABOVE SAFEGUARDS**